Chapter 5: Consultation and Coordination

This chapter includes a summary of efforts to involve agencies and the public in this planning process, beginning with public scoping in 2002. It also includes a response to all "substantive" public comments made on the draft EIS. The draft EIS was available for public review from February 4, 2005 through April 19, 2005.

Public Scoping

On April 10, 2002, a Notice of Scoping was published in the *Federal Register* (Volume 67, No. 69). It announced the initiation of public scoping for the environmental impact analysis process for preparation of a non-native deer management plan.

Public comments were heard at a public information meeting at the Point Reyes Dance Palace on May 4, 2002. The public meeting featured a short presentation by the Seashore wildlife biologist on the environmental planning process, background on non-native deer, and issues of importance to park management. Background informational handouts were provided. Members of the Citizen's Advisory Committee for Point Reyes National Seashore and Golden Gate National Recreation Area were given the opportunity to ask questions of park staff. Five individuals spoke at the public meeting. A sign-up sheet at the public meeting provided an opportunity for members of the public to be included on a mailing list for upcoming information on the management plan in development. Two of the speakers at the meeting asked that the EIS examine impacts to vegetation, soils and water. Two other speakers asked that the park not consider lethal removal of deer. A representative of several animal's rights organizations requested that the Seashore investigate the impact of livestock on natural ecosystems and asked that non-lethal control methods be fully investigated.

Public comments were accepted in letter or email form from May 4, 2002 until July 5, 2002. All those who sent written comments during the scoping period and included a return mailing address were also put on the mailing list. The following matrix summarizes the issues raised and alternatives suggested in letters and emails sent to the Seashore during the public scoping period. The issues raised are those that the public wished to see considered in the Environmental Consequences portion of this document (Chapter 4). The alternatives are management actions recommended to address one or more issues of concern.

Issues Raised	Topic
	Soil impacts
	Water quality impacts
	Impacts of non-native deer on native deer
	Success, impacts and costs of the previous NPS non-native deer control program
	Impacts of cattle ranching
	Public attitudes towards non-native deer
	Options for carcass management
	Economic impacts of deer to local community

	Importance of native versus non-native species in the National Park Service
	Recreational value of non-native deer
	Humane treatment of deer
	Vegetation impacts, including wildflowers and private gardens
	Impacts of No Action alternative
Alternatives Recommended	
	Public hunting of non-native deer
	Contraception of non-native deer
	Sterilization of non-native deer
	Lethal removal of non-native deer
	Donation of non-native deer meat to charities
	Rancher shooting of non-native deer
	Trapping, shipping and slaughter of non-native deer
	Herd reduction, not eradication, of non-native deer
	Eradication, not herd reduction, of non-native deer
	Adoption or relocation of non-native deer
	Fencing to control movement of non-native deer

From February to July 2002, park staff gave presentations to local and state public groups on the Seashore's planning process and provided background information on non-native deer. Audiences ranged from local homeowners' and ranchers' associations to local branches of national environmental and animal rights groups. The following groups were addressed:

- Animal Protection Institute
- Environmental Action Committee of West Marin
- Inverness Association
- Marin Audubon
- Marin Conservation League
- Marin Humane Society
- Point Reyes Seashore Ranchers' Association
- Point Reyes Station Village Association
- Sierra Club, Marin Chapter

In addition, the following groups were contacted and given the opportunity to attend an informational presentation but were either unavailable or felt they were sufficiently informed on the topic:

- Defenders of Wildlife
- Federated Indians of Graton Rancheria
- In Defense of Animals

- Inverness Ridge Association
- Marin Agricultural Land Trust
- National Parks and Conservation Association
- Natural Resource Defense Council
- Wilderness Society

Agency Scoping

On December 5, 2001, representatives of public agencies were invited to attend an informational meeting at the Seashore, with the objective of updating those agencies on the development of a non-native deer management plan. Attending the meeting, in addition to NPS staff, were representatives from:
Marin County Parks and Open Space
Marin Municipal Water District
U.S. Geological Survey- Biological Resources Division
California Department of Fish and Game
California State Parks
U.S. Department of Agriculture (Animal Plant Health Inspection Service)

Also invited but not attending was the U.S. Fish and Wildlife Service. NPS biologists informed attendees of the schedule for development of a management plan and EIS, and gave an update on known numbers and range of non-native deer within and outside of the Seashore.

Public Review of the Draft EIS

The DEIS was made available for public review and comment for 63 days, from February 4, 2005 through April 8, 2005. Comments received through April 19, 2005 were considered and responses to the comments prepared. Midway through the public comment period, on March 3, 2005, an informational workshop was held in the Red Barn Classroom at Seashore Headquarters. Approximately 60 people attended the 3-hour meeting and posed questions to a panel of scientists and staff or expressed preference for project alternatives. Audience members were informed of a number of ways of submitting comments on the plan either that night at the meeting, or by mail/email before April 8, 2005. A summary of the meeting is attached (Appendix G).

During the comment period, the NPS received a total of 1,980 pieces of correspondence (including letters, emails, facsimiles, and hand-delivered comment forms), containing 4450 individual comments. Form letters constituted 57% of the emails comment letters received. Ninety-four percent of the comments were sent in by individual members of the public. Seventy-four percent of all correspondence originated from the U.S. with 35% of this originating in California.

All comments were reviewed and considered. Where warranted, the draft plan was revised to reflect edits recommended by commenters or to clarify text questioned by commenters. Responses were prepared for all substantive comments submitted by the public and agencies and are included at the end of this chapter. A Record of Decision will be published no sooner than 30 days following publication by the EPA of the notice of the availability of the Final Environmental Impact Statement in the Federal Register. The Record of Decision is signed by the NPS Regional Director and, once published, signals that the plan may begin implementation.

Compliance Status

Documentation of NPS compliance with federal and state laws and regulations is incorporated into the text of the EIS. Compliance with relevant federal environmental and cultural resource protection laws, regulations and executive orders, is summarized here.

National Environmental Policy Act (NEPA) of 1970. PL 91-190, 83 Stat. 852, 42 U.S.C. §4341 et seq. The EIS provides disclosure of the planning and potential environmental consequences of the Preferred Alternative and alternatives, as required by NEPA. The EIS process for this planning effort has been conducted in accordance with the guidance provided in NPS Director's Order 12 and its accompanying handbook.

Endangered Species Act of 1973, as amended, PL 93-205, 87 Stat. 884, 16 U.S.C. §1531 et seq. The Endangered Species Act protects threatened and endangered species, as listed by the USFWS, from unauthorized take, and directs federal agencies to ensure that their actions do not jeopardize the continued existence of such species. Section 7 of the act defines federal agency responsibilities for consultation with the USFWS and NMFS (for fish and marine mammals) and requires concurrence from these two agencies with any NPS determination that intended management actions would not adversely affect listed species. The National Park Service initiated the consultation process with USFWS and NMFS on March 26, 2003. Concurrence from both USFWS and NMFS that the plan would not adversely affect listed species was requested in letters sent to both agencies.

On March 10, 2005, in a letter to the USFWS, the NPS requested concurrence with its finding that the proposed plan would not be likely to adversely affect the proposed critical habitat for the California red-legged frog or adversely affect nine plant and animal species found in the planning area. In a memo dated April 7, 2005, the USFWS explained that their assessment of potential effect was based on the project constraints described in the consultation letter including: (1) no actions would take place in creeks, waterways or riparian areas, (2) culling would be conducted by specifically trained staff, (3) carcasses would be removed when possible, and where not possible, left to decay naturally, and (4) that if project work descriptions or time frames change from those provided in the consultation letter, those changes would be submitted to the USFWS for review. In the April 7, 2005 memo, the USFWS concurred with the NPS findings that measures in the proposed plan are sufficient to reduce any direct, indirect and cumulative effects to the nine listed species and proposed critical habitat to an insignificant or discountable level. With the issuance of the memo, the USFWS concluded its consultation process for the Non-native Deer Management Plan EIS.

On March 28, 2005, NPS transmitted a letter to NMFS regarding potential project effects on listed fish species and fish habitat during implementation of the plan. The NPS clarified that management actions would not take place in creeks, waterways, or riparian areas and therefore the proposed project is not likely to adversely effect Central California Coast Evolutionary Significant Unit coho salmon, Central California Coast Evolutionary Significant Unit steelhead, Central California Coast Evolutionary Significant Unit Chinook salmon, Designated Critical Habitat for Central California Coast Evolutionary Significant Unit coho salmon, and Essential Fish Habitat for coho salmon and Chinook salmon. NMFS concurred with NPS findings in a letter to the NPS on May 3, 2005, ending the informal consultation process.

Archeological Resources Protection Act of 1979, PL 96-95, 93 Stat. 712, 16 U.S.C. §470aa et seq. and 43 CFR 7, subparts A and B, 36 CFR. This act secures the protection of archeological resources on public or Indian lands and fosters increased cooperation and exchange of information between private, government, and the professional community in order to facilitate the enforcement and education of present and future generations. It regulates excavation and collection on public and Indian lands. It requires notification of

Indian tribes who may consider a site of religious or cultural importance prior to issuing a permit. The NPS would meet its obligations under this Act in all activities conducted in the Non-Native Deer Management Plan through the adoption of standard mitigation measures addressing standard procedures to follow in the event that cultural resources are unexpectedly encountered.

National Historic Preservation Act of 1966, as amended, PL 89-665, 80 Stat. 915, 16 U.S.C. §470 et seq. and 36 CFR 18, 60, 61, 63, 68, 79, 800. The National Historic Preservation Act requires agencies to take into account the effects of their actions on properties listed in or eligible for listing in the National Register of Historic Places. The Advisory Council on Historic Preservation has developed implementing regulations (36 CFR 800), which allow agencies to develop agreements for consideration of these historic properties. The NPS, in consultation with the Advisory Council, the California State Historic Preservation Officer, American Indian tribes and the public, has developed a Programmatic Agreement for operations and maintenance activities on historic structures. This Programmatic Agreement provides a process for compliance with National Historic Preservation Act, and includes stipulations for identification, evaluation, treatment, and mitigation of adverse effects for actions affecting historic properties. The NPS sent a scoping notice to the state historic preservation officer and the Advisory Council for Historic Preservation. The Draft EIS was sent to the state historic preservation officer (through the State Department of Parks and Recreation) and the State Native American Heritage Commission These agencies did not submit comments on the management plan during the scoping or the public comment periods. The Chief of Cultural Resources of PRNS concluded that as non-native deer are not part of the traditions or history of the Native American people of the region or the local ranching culture and as implementation of the management plan would not affect historic structures or districts, no further compliance with Section 106 is warranted (Gordon White, 10/6/03).

American Indian Religious Freedom Act, PL 95-341, 92 Stat. 469, 42 U.S.C. §1996. This act declares policy to protect and preserve the inherent and constitutional right of the American Indian, Eskimo, Aleut, and Native Hawaiian people to believe, express, and exercise their traditional religions. It provides that religious concerns should be accommodated or addressed under NEPA or other appropriate statutes. The National Park Service, as a matter of policy, is as nonrestrictive in permitting Native American access to and use of identified traditional sacred resources for traditional ceremonies.

Executive Order 11988: Floodplain Management. This Executive Order requires federal agencies to avoid, to the extent possible, adverse impacts associated with the occupancy and modification of floodplains, and to avoid development in floodplains whenever there is a practical alternative. If a proposed action is found to be in the applicable regulatory floodplain, the agency shall prepare a floodplain assessment, known as a Statement of Findings. All of the actions proposed in the Non-Native Deer Management Plan are consistent with this executive order.

Executive Order 11990: Protection of Wetlands. This Executive Order established the protection of wetlands and riparian systems as the official policy of the federal government. It requires all federal agencies to consider wetland protection as an important part of their policies and take action to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands. All of the actions proposed in the Non-Native Deer Management Plan are consistent with this executive order.

Executive Order No. 13112: Invasive Species. This Executive Order prevents the introduction of invasive species and directs federal agencies to not authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species. Actions proposed in the EIS include measures to prevent the introduction and spread of invasive species.

Coastal Zone Management Act, 16 U.S.C. § 1451-1464. This act protects coastal environments. While this act transferred regulatory authority to the States and excluded federal installations from the definition of the "coastal zone," it requires that federal actions be consistent with state coastal management plans. Activities taking place within the coastal zone under the definition established by the California Coastal Management Plan require a federal consistency determination. The NPS submitted a letter to the Coastal Commission requesting concurrence with the conclusion reached by the NPS that the proposed management plan would not adversely affect coastal resources. The Coastal Commission staff issued a letter in reply on August 5, 2005, concurring with the NPS conclusion that the project warranted a negative determination, i.e., a finding of no adverse effect. The Coastal Commission letter explained that although the management plan could result in short-term adverse effects such as increased intermittent noise from aircraft and firearms and temporary area closures where culling or contraception are being conducted, the long-term effects of the plan would result in enhancement of the visitor experience. This enhancement would result from the restoration of native habitats, increased opportunities for viewing native fauna and prevention of migration of non-native deer species into the adjacent coastal zone.

40 C.F.R. 1506 NPS must file the FEIS with EPA's Office of Federal Activities. Each week, EPA publishes a notice in the *Federal Register* that lists the FEIS's received during the preceding week. The 30-day time period for public review of a FEIS is measured from the date of publication in the *Federal Register*. The EPAP ensures that agencies, such as NPS, comply with several federal environmental laws such as the Clean Air Act, the Clean Water Act, and the Federal Insecticide, Fungicide and Rodenticide Act, among others.

Clean Air Act 16 U.S.C. § 1451-1464. This law prevents pollution of air, and in Section 309 authorizes the Environmental Protection Agency (EPA) to review certain proposed actions of other federal agencies in accordance with the National Environmental Policy Act (NEPA) and to make those reviews public. If the proposing agency (the "lead" agency) does not make sufficient revisions and the project remains environmentally unsatisfactory, EPA may refer the matter to the President's Council on Environmental Quality for mediation

List of Preparers

Between August 2001 and September 2003, an interdisciplinary team of Seashore biologists, administrators, and specialists met nine times and supervised the preparation of the DEIS. In addition, personnel from Golden Gate National Recreation Area and the NPS Pacific West Regional office were instrumental in providing guidance. Following the close of the public comment period on April 8, 2005, the interdisciplinary team met to consider the comments submitted by the public, organization and agencies and develop responses. Staff at the NPS Denver Service Center provided support to the team in collating comments into issue areas. NPS personnel who assisted in the preparation of the EIS documents for the management plan were:

Dawn Adams, Inventory and Monitoring Coordinator, PRNS; BS, General Biology, University of Illinois.

Sarah Allen, Ecologist, PRNS; PhD, University of California, Berkeley, MS, University of California, Berkeley; BS, Conservation of Natural Resources, University of California, Berkeley.

Ben Becker, Marine Ecologist, PRNS; PhD, University of California, Berkeley; MS, Yale University; BA, University of California, Los Angeles.

John Dell'Osso, Chief of Interpretation, PRNS; B.S. Environmental Planning and Management, University of California, Davis.

Gary Fellers, PhD, Research Biologist, Western Ecological Research Center, US Geological Survey; PhD, University of Maryland; M.S, University of Maryland; BA, University of California, Berkeley.

Natalie Gates, Wildlife Biologist, PRNS; MS, Environmental Science and Policy, University of California; DVM, New York State College of Veterinary Medicine (Cornell); BA, Biology, Harvard University.

Daphne Hatch, Chief of Natural Resource Management and Science, GGNRA; M.S. Range Management and PhD Candidate Wildland Resource Science, University of California, Berkeley, CA.

Brannon Ketcham, Hydrologist, PRNS; MEM, Water Resources Management, Duke University; BA, Geology, Pomona College.

Bill Merkle, Wildlife Ecologist, GGNRA; PhD, Department of Environmental, Population, and Organismic Biology, University of Colorado, Boulder; BA, Stanford University.

Barbara Moritsch, Plant Ecologist, PRNS; MS, Environmental Science, Oregon State University; BS, Resource Planning and Interpretation, Humboldt State University.

Don Neubacher, Superintendent, PRNS; MS Resource Management, Humboldt State University; BS, Environmental Planning, University of California, Davis.

Lorraine Parsons, Wetland Ecologist, PRNS, M.S. San Diego State University, BA University of Southern California, BS University of Southern California.

Suzanne Pettit, Exotic Deer Biotechnician, PRNS: BS, Biology, University of Michigan.

Wendy Poinsot, Environmental Planner PRNS and GGNRA, BA, Park History, Colorado State University.

Jane Rodgers, Plant Ecologist, PRNS; BS, Forestry, University of California, Berkeley.

William Shook, PRNS; BS, Secondary Education, Pennsylvania State University.

Gordon White, Chief of Cultural Resources, PRNS; MA, Architecture, University of California, Berkeley; BA, Environmental Design, University of California, Berkeley.

List of Agencies and Organizations to Whom Notices of the Environmental Impact Statement are Being Sent

Federal Agencies

U. S. Army Corps of Engineers
U. S. Coast Guard
U. S. Department of Commerce National Oceanic and Atmospheric Administration
U.S. Environmental Protection Agency
U. S. Geological Service
U. S. Fish and Wildlife Service
U. S. Natural Resources Conservation Service
U. S. National Marine Fisheries

Federal Advisory Groups
Advisory Council for Historic Preservation

Elected Officials
California State Assemblyperson Joe Nation
California State Senator John Burton
Marin County Supervisor Steve Kinsey
U. S. Representative Lynn Woolsey
U. S. Senator Barbara Boxer
U. S. Senator Dianne Feinstein

State Agencies
Bodega Marine Lab
California Coastal Commission
State of California Department of Environmental Science
State of California Department of Fish and Game
State of California Department of Parks and Recreation
State of California Department of Transportation
State of California Office of Planning and Resources State Clearinghouse
State Historic Preservation Office
State Native American Heritage Commission
University of California, Berkeley
University of California Cooperative Extension
Wildlife Health Center, University of California, Davis, School of Veterinary Medicine

Regional, County, and Municipal Agencies
Bolinas Fire Department
Bolinas Community Public Utility District
Inverness Fire Department
Marin Humane Society
Marin County Fire Department
Marin County Open Space
Marin County Planning and Acquisition
Marin County Sheriff's Department
Marin County Resource Conservation District
Marin Municipal Water District
Nicasio Fire Department
San Francisco Regional Water Quality Control Board
Sonoma County Agriculture Preservation and Open Space District
Sonoma County Water Agency

Non-Governmental Organizations, Non-Profit Organizations, etc.
Animal Protection Institute
Audubon Canyon Ranch & Cypress Grove Preserve
Audubon Society, Marin Chapter
Bay Area Ridge Trail Council
Bay Institute
Bicycle Trails Council
Bolinas Community Parks Planning
California Native Plant Society
Coastwalk

Committee for the Preservation of Tule Elk
Defenders of Wildlife
East Shore Planning Group
Environmental Action Committee of West Marin
Environmental Forum of Marin
Federated Indians of Graton Rancheria
Friends of the Estero
Gardener's Guild
In Defense of Animals
Inverness Association
Inverness Ridge Association
Marin Agricultural Land Trust
Marin Audubon Society
Marin Conservation League
Marin County Farm Bureau
Marin Horse Council
National Parks and Conservation Association
North American Trail Ride Conference
Planning and Conservation League
Point Reyes Bird Observatory
Point Reyes Light
Point Reyes Seashore Rancher's Association
Point Reyes Village Association
Preserve Historic Olema Valley
Sierra Club, Marin Group
Sonoma Horse Council
Sonoma County Farm Bureau
Sustainable Conservation
Tomales Bay Advisory Committee
Tomales Bay Watershed Council
Trout Unlimited
Trust for Public Lands
Vedanta Society
West Marin Chamber of Commerce
West Marin Community Radio
West Marin Paths
Wilderness Society

Libraries
Bolinas Library
Inverness Library
Marin County Library
Point Reyes Library
Stinson Beach Library
San Rafael Library

The plan will be placed on the Point Reyes National Seashore website at www.nps.gov/pore/planning. A notice will be mailed to all individuals that have indicated interest in PRNS planning and management activities.

Responses to Comments

Introduction

The purpose of this section is to analyze the substantive comments given to the Seashore by the public (see below). The Final EIS is meant to be an accurate analysis of impacts of each alternative. Public and agency review of the draft helps to ensure quality. Analysis of comments allows NPS to identify the public's opinion on the adequacy of the document, collect new information on resources, alternatives and environmental issues. The Seashore used public comments to review the alternatives, supplement/improve/modify impact analysis, correct factual errors and clarify information presented in the draft version.

This section is divided into four subsections: Introduction, Commenter Index, Agency and Sample Comments, and NPS Response to Comments. As described above, during the comment period, the NPS received a total of 1,980 pieces of correspondence, containing 4450 individual comments. Form letters constituted 57% of the emails comment letters received. Ninety-four percent of the comments were sent in by individual members of the public. Many of these comments were highly similar or exact duplicates of others. Each comment was read and assigned a Topic Code number. Similar comments received the same code number. This allowed NPS staff to respond once to a comment or concern that several people shared. The commenter index, posted on the Seashore website, allows each person to locate responses to their particular comments.

All comments, as well as attachments and included materials, were reviewed and considered. Where warranted, the draft EIS was revised to reflect edits recommended by commenters or to clarify text questioned by commenters. Responses were prepared for all substantive comments raised by the public and agencies. Substantive comments are defined for the purposes of an EIS as those that raise, debate, or question a point of fact or policy. Substantive comments do one or more of the following:

- question, with reasonable basis, the accuracy of information in the EIS.
- question, with reasonable basis, the adequacy of environmental analysis.
- present reasonable alternatives other than those presented in the EIS.
- cause changes or revisions in the preferred alternative.

Comments in favor or against an alternative, or comments that only agree or disagree with NPS policy are not considered substantive. Comments were either responded to individually or with a response that addressed the concerns of several commenters made on a closely related topic. Such concerns, each one summarizing a substantive comment found in one or more letters, are identified by a unique Topic Code number.

Commenter and Correspondence Indices

An index matching each commenter with a Correspondence ID number, a unique identifier for the letter, email or fax submitted by each individual or organization, has been posted on the Seashore website (http://www.nps.gov/pore/pphtml/documents.html). This Commenter Index is arranged alphabetically. A second index matching the Correspondence ID to one or more Topic Codes is also posted at the website (Correspondence Index). Several Topic Codes are listed after a Correspondence ID if the commenter included more than one substantive comment in his/her letter. Topic Codes, each with its corresponding NPS response, follow in the NPS Response to Comments section.

Agency and Sample Comments

The following is an index of all organizations that submitted comments on the plan, along with the Topic Code(s) which represent the substantive comments within those letters. Again, a larger index which includes all individual commenters, is posted on the Seashore website. All responses are found in the Response to Comments section, at the end of this chapter. All submitted comments, as well as attachments and included materials, are available for public perusal in the administrative record.

Organization Name	Topic Code
Audubon Canyon Ranch, Cypress Grove Research Center	AL1400
	AL1500
	WH2000
	WH4000
California Cattlemen's Association	AL1500
California Department of Fish and Game	AL1500
	WH2000
California Native Plant Society, Marin Chapter	AL1400
	AL1500
	AL1110
California State Parks	AL1500
	WH2000
California State Parks, Natural Resources Division	AL1500
Friends of the Folsom Zoo, Inc.	AL5000
House of Representatives, US Congress	AL4300
	PN8000
	PN8000
In Defense of Animals	AL1410
	AL2000
	AL4000
	AL4400
	AL5000
	GA3000
	PN8000
	TE4000
	WH1000
	WH2000
	WH4000
	WV 1000
Marin Audubon Society	AL1400
Marin Conservation League	AL1500
Marin Humane Society	AL4400
Marin Municipal Water District	WH1100
	WH2000
Marin Peace and Justice Coalition	AL1100
National Humane Education Society	AL5000
	AL2000
	AL5000

	GA3000
National Parks Conservation Association	AL1110
	AL1210
	AL1310
	AL1400
	WH4000
Natural Resources Defense Council	AL1400
People for Golden Gate National Recreation Area	AL1110
	AL1210
	AL1310
	AL1500
	PO4000
Planned Feralhood	AL2000
	AL4300
	WH1100
Point Reyes Light	AL1510
	GA3000
Point Reyes Seashore Ranchers Association	AL1200
	AL1300
	WH1000
	WH4000
Point Reyes Bird Observatory Conservation Science	AL1500
San Francisco League of Conservation Voters	AL1210
	AL1310
	AL1500
Sierra Club	AL1500
	WH2000
	WH4000
Sierra Club Marin Group	AL1110
	AL1500
	AL4500
	PO4000
	WH4000
Sonoma-Marin Cattlemen's Association	AL1110
The Environmental Action Committee of West Marin	AL1500
The Humane Society of the United States	AL1100
	AL1101
	AL4000
	AL4100
	AL4300
The Jane Goodall Institute	AL4000
	AL4300
	AL4400
	AL5000
The Science and Conservation Center	AL4000
Voices for Animals	AL4400
Wildlife Fawn Rescue	AL4500

Because of the volume of correspondence received during the public comment period, this document cannot include all comment letters. All substantive comments found within all correspondence were responded to as described above. NEPA requires NPS to reprint any federal, state or local agency, or tribal letters of comment. They are reprinted in the following pages, with a sample of non-agency letters - an example of the two most commonly received form letters and some letters containing multiple substantive comments representative of various viewpoints.

LYNN WOOLSEY
6TH DISTRICT, CALIFORNIA

COMMITTEES:
EDUCATION AND THE WORKFORCE
RANKING MEMBER, SUBCOMMITTEE ON EDUCATION REFORM
SUBCOMMITTEE ON WORKFORCE PROTECTIONS
SCIENCE
SUBCOMMITTEE ON ENERGY

WEB PAGE AND E-MAIL:
http://www.woolsey.house.gov

Congress of the United States

House of Representatives

Washington, DC 20515–0506

WASHINGTON OFFICE:
2263 RAYBURN BUILDING
WASHINGTON, DC 20515–0506
TELEPHONE: (202) 225–5161

DISTRICT OFFICES:
101 COLLEGE AVENUE, SUITE 200
SANTA ROSA, CA 95404
TELEPHONE: (707) 542–7182

NORTHGATE BUILDING
[illegible] DRIVE, SUITE 65
SAN RAFAEL, CA 94903
TELEPHONE: (415) 499–0284

April 8, 2005

Don Neubacher, Superintendent
Point Reyes National Seashore
Point Reyes, CA 94965

Dear Superintendent Neubacher:

I am writing you concerning the draft Environmental Impact Statement/ Non-native Deer Management Plan that has been prepared by the Park Service to address the problems posed by the growing populations of non-native axis and fallow deer at the Pt. Reyes National Seashore.

Over the past few weeks my office has received numerous letter from constituents deeply concerned about this issue. I'm sure that you know the arguments. On one side there is a wish to protect the native species, biodiversity, and historical uses of the park (and nearby private property), which are threatened by a rapidly expanding population of non-native deer. On the other side, there is strong and heartfelt support for the preservation of these very beautiful creatures.

Unfortunately, I've been told that many of these deer carry a contagious disease, which is both difficult to screen and incurable, and would preclude relocating them to the wild or other less sensitive preserve areas, which would be my first choice.

I believe, however, that the most positive action would be fertility control as a significant component of a non-native deer control program and urge the Park Service to engage in the research that will be necessary to develop and deliver long-acting contraception to the non-native deer population. While fertility control may not be the entire answer, however, research into these areas would have the beneficial effect of helping to develop the technologies to humanely deal with similar problems in the future.

Please know that I appreciate the difficult and very complex work that the Park Service does to protect our national treasures.

Sincerely,

Lynn Woolsey

Lynn Woolsey
Member of Congress

STATE OF CALIFORNIA—THE RESOURCES AGENCY ARNOLD SCHWARZENEGGER, *GOVERNOR*

CALIFORNIA COASTAL COMMISSION

45 FREMONT, SUITE 2000
SAN FRANCISCO, CA 94105- 2219
VOICE AND TDD (415) 904- 5200
FAX (415) 904- 5400

August 5, 2005

Don L. Neubacher
Superintendent,
Point Reyes National Seashore
ATTN: Natalie Gates
Point Reyes, CA 94956

Subject: Negative Determination ND-078-05, Non-Native Deer Management Plan, Point Reyes National Seashore, Marin County

Dear Mr. Neubacher:

The Coastal Commission staff has reviewed the above-referenced negative determination. The National Park Service (NPS) proposes to implement a management plan for the eradication of non-native axis and fallow deer from within Point Reyes National Seashore by the year 2020 through a combination of long-lasting contraceptives and lethal removal. Individuals of both species were purchased from the San Francisco Zoo in the 1940s and 1950s and released on the Point Reyes peninsula by a private landowner before the establishment of the Seashore. The NPS estimates that currently there are approximately 250 axis and 860 fallow deer within the Seashore. Populations of both species of deer have increased in recent years and the range of fallow deer appears to be expanding eastward, towards and beyond the seashore boundary.

Point Reyes National Seashore is comprised of land and water owned and controlled by the NPS. Section 304(1) of the Coastal Zone Management Act excludes from the coastal zone all lands held in trust by or whose uses are subject solely to the discretion of the federal government. Notwithstanding this exclusion, if proposed activities on excluded lands could affect land or water uses or natural resources of the coastal zone, those activities must be reviewed for consistency with the California Coastal Management Program. It is in this context that the proposed management plan for the removal of non-native deer within the Seashore is reviewed.

The Point Reyes National Seashore 1999 Resource Management Plan (RMP) states that:

> *Regardless of potential competition and disease issues, the presence of these non-native deer compromises the ecological integrity of the Seashore and the attempts to reestablish the native cervid fauna comprising tule elk and black-tailed deer.*

The proposed management plan states that removal of non-native deer would assist the NPS in the restoration of soils, water quality, aquatic habitat, riparian vegetation, forest understories, and threatened and endangered species habitat for salmonids and red-legged frogs within the Seashore that have been and continue to be damaged by the presence of non-native deer. In

addition, the proposed activity would prevent the spread of non-native deer into surrounding private and public lands (including lands within the coastal zone) and the consequent spread of natural resource impacts, and would address adverse impacts to agricultural permittees by non-native deer within the Seashore.

The NPS proposes to eradicate all axis and fallow deer within the Seashore by 2020. A percentage of fallow deer would be treated with a long-acting contraceptive, and both axis and fallow deer would be removed by NPS staff trained in wildlife sharpshooting. The NPS reports that population modeling for fallow deer at the Seashore suggests that total numbers of both species of non-native deer removed by 2020 are projected to be at least 1,350 (800 axis and 550 fallow deer), while total numbers of fallow does treated by 2020 with a contraceptive could range from 100 to 150. The population and distribution of non-native deer within the Seashore would continue to be monitored throughout the 2005-2020 time period.

Temporary area closures (excluding beaches) may be required for the safe capture and culling of non-native deer and may temporarily inconvenience visitors to the Seashore. Increased noise from aircraft use or firearms may temporarily result in the loss of peace and quiet in the Seashore during periods of non-native deer management activities. Over the long term, however, removal of two invasive animal species will enhance the quality of the visitor experience by contributing to the restoration of damaged habitats within the Seashore and providing increased opportunities for viewing native deer and elk in the Seashore. In addition, the proposed action would keep non-native deer from migrating into the coastal zone and adversely affecting environmentally sensitive habitats.

In conclusion, the Commission staff **agrees** that implementing the non-native deer management plan within Point Reyes National Seashore will not adversely affect coastal zone resources. We therefore **concur** with your negative determination made pursuant to 15 CFR 930.35 of the NOAA implementing regulations. Please contact Larry Simon at (415) 904-5288 should you have any questions regarding this matter.

Sincerely,

PETER M. DOUGLAS
Executive Director

cc: North Central Coast District Office
California Department of Water Resources
Governor's Washington, D.C., Office

State of California – The Resources Agency ARNOLD SCHWARZENEGGER, Governor
DEPARTMENT OF FISH AND GAME
http://www.dfg.ca.gov

1416 Ninth Street
Sacramento, California 95814
(916) 653-4673

March 24, 2005

Mr. Don L. Neubacher, Superintendent
Point Reyes National Seashore
Point Reyes, California 94956

Dear Mr. Neubacher:

The California Department of Fish and Game (Department) has reviewed the draft Environmental Impact Statement regarding the Non-Native Deer Management Plan. The National Park Service is proposing to remove axis and fallow deer within the Point Reyes National Seashore's boundary through a combination of long-duration contraception and lethal control. The Department has the following comments regarding the proposal:

1. The Department supports control of non-native species in natural areas where management goals are the protection of native ecosystems and species;

2. The Department supports all management actions that will prevent the movement of these non-native deer species outside the Point Reyes National Seashore's boundary;

3. Due primarily to disease concerns, the Department does not support the movement of any live, non-native deer within the State for any purposes.

Thank you for the opportunity to provide these comments. If you have any questions, please contact John Carlson, Jr., Chief, Wildlife Programs Branch, at (916) 445-3555.

Sincerely,

Sonke Mastrup
Deputy Director

cc: John Carlson, Jr., Chief
Wildlife Programs Branch

Conserving California's Wildlife Since 1870

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION IX
75 Hawthorne Street
San Francisco, CA 94105-3901

March 2, 2005

Don Neubacher, Superintendent
Point Reyes National Seashore
Point Reyes, CA 94956

Subject: Non-Native Deer Management Plan Draft Environmental Impact Statement (DEIS)
[CEQ # 050030]

Dear Mr. Neubacher:

The U.S. Environmental Protection Agency (EPA) has reviewed the above referenced document. Our review and comments are provided pursuant to the National Environmental Policy Act (NEPA), the Council on Environmental Quality's NEPA Implementation Regulations at 40 CFR 1500-1508, and Section 309 of the Clean Air Act.

The DEIS analyzes alternatives for management of Axis Deer and Fallow Deer in Point Reyes National Seashore (PRNS) and Golden Gate National Recreation Area lands administered by PRNS. The intent of the plan is to assist the National Park Service in restoring native ecosystems within park lands and preventing the spread of non-native deer into surrounding private and public lands, and to address impacts to agricultural permittees within PRNS. We have rated this DEIS as LO -- Lack of Objections (see enclosed "Summary of Rating Definitions").

We appreciate the opportunity to review this DEIS and request a copy of the Final Environmental Impact Statement when it is filed with our Washington, D.C. office. If you have any questions, please call me at (415) 972-3854, or have your staff call Jeanne Geselbracht at (415) 972-3853.

Sincerely,

Lisa B. Hanf

Lisa B. Hanf, Manager
Federal Activities Office

003944
Enclosure: "Summary of Rating Definitions"

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SUMMARY OF EPA RATING DEFINITIONS

This rating system was developed as a means to summarize EPA's level of concern with a proposed action. The ratings are a combination of alphabetical categories for evaluation of the environmental impacts of the proposal and numerical categories for evaluation of the adequacy of the EIS.

ENVIRONMENTAL IMPACT OF THE ACTION

"LO" (Lack of Objections)

The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

"EC" (Environmental Concerns)

The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

"EO" (Environmental Objections)

The EPA review has identified significant environmental impacts that must be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

"EU" (Environmentally Unsatisfactory)

The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

ADEQUACY OF THE IMPACT STATEMENT

Category 1" (Adequate)

EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

"Category 2" (Insufficient Information)

The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analysed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

"Category 3" (Inadequate)

EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analysed in the draft EIS, which should be analysed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

*From EPA Manual 1640, "Policy and Procedures for the Review of Federal Actions Impacting the Environment."

MARIN MUNICIPAL
WATER DISTRICT

220 Nellen Avenue Corte Madera CA 94925-1169
www.marinwater.org

April 11, 2005

Mr. Don Neubacher
Superintendent
Point Reyes National Seashore
Point Reyes, CA 94956

Attention: Non-Native Deer Management Plan

Dear Mr. Neubacher:

On behalf of the Board of Directors of The Marin Municipal Water District (District) I am writing in support of Point Reyes National Seashore's Non-Native Deer Management Plan Draft Environmental Impact Statement (Plan) and specifically for the preferred Alternative E. As a neighboring landowner to the Seashore we share common interests in managing invasive species such as axis and fallow deer. You will recall that our agencies collaborated on successful feral pig control in the 1980s. Our watershed management polices promote the protection of native flora and fauna and specifically call for the control of exotic species. Your plan suggests male fallow deer are already leaving National Park Service lands and that without effective control, fallow deer may become resident on our lands. We are very concerned about this prospect.

We support Alternative E because it calls for the eradication of both non-native deer from the park because it is consistent with natural area management policies that protect native diversity. We also believe that it is a more humane alternative in the long run than maintenance of herds at pre-determined low levels (Alternatives B and C), because herd maintenance calls for culling herds in perpetuity. Alternative E calls for the application of long-acting contraceptives in combination with shooting by trained NPS staff. We applaud the park service for emphasizing non-lethal means even though they are experimental and unproven.

A successful deer management program is required to protect the ecological integrity of our wildlands. A no action alternative would lead to widespread ecological degradation beyond park boundaries and is therefore unacceptable. We commend you and your staff for the careful science-based evaluation and effective proposal for a difficult and controversial issue.

Sincerely,

Paul Helliker

Paul E. Helliker
General Manager

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802- 4213

May 3, 2005

In Response Refer to:
151422SRW05SR00250:DL

Don L. Neubacher, Superintendent
National Park Service
Point Reyes National Seashore
Point Reyes, California 94956

Dear Mr. Neubacher:

This letter is in response to your request for written concurrence from the NOAA's National Marine Fisheries Service (NMFS) regarding the National Park Service's (NPS) three determinations related to its Non-native Deer Management Plan for the Point Reyes National Seashore: 1) the project is not likely to adversely affect threatened California Coastal (CC) Chinook salmon (*Oncorhynchus tshawytscha*), Central California Coast (CCC) coho salmon (*O. kisutch*), or CCC steelhead (O. mykiss); 2) the project is not likely to result in adverse effects to designated critical habitat for CCC coho salmon or the proposed critical habitat of CC Chinook salmon and CCC steelhead; and 3) the project is not likely to result in adverse modification of Essential Fish Habitat. NPS proposes to eradicate nonnative axis deer (*Cervus axis*) and fallow deer (*Cervus dama*) on its holdings throughout the Lagunitas Creek watershed in Marin County California. The proposed eradication efforts will occur in grassland or scrub areas where deer can be handled or culled safely. No management actions will occur in streams or riparian areas. Therefore, I concur with NPS's three determinations stated earlier in this paragraph.

This concludes informal section 7 consultation for this proposed project in accordance with 50 CFR section 402.14(b)(1). Consultation must be reinitiated if new information becomes available revealing the effects of the action on listed species in a manner or to an extent not previously considered, the project plans change, if the action is subsequently modified in a manner that causes an effect to listed species that was not considered, or if a new species or critical habitat is designated that may be affected by this action.

If you have questions concerning this consultation, please contact Daniel Logan at (707) 575-6053.

Sincerely,

for Rodney R. McInnis
Regional Administrator

cc: ARA-PRD, NMFS

State of California • The Resources Agency
Arnold Schwarzenegger, *Governor*
DEPARTMENT OF PARKS AND RECREATION • P.O. Box 942896 • Sacramento, CA 94296-0001
Ruth Coleman, *Director*
(916) 653-6725

April 7, 2005

Don L. Neubacher
Superintendent
Point Reyes National Seashore
Point Reyes, California 94956

Dear Superintendent Neubacher:

Thank you for the opportunity to comment on the Draft Non-Native Deer Management Plan Environmental Statement (EIS).

California State Parks manages property in close proximity to both Point Reyes National Seashore (Tomales Bay State Park) and to Golden Gate National Recreation Area (Mount Tamalpais SP, Marconi State Historic Park, and Samuel P. Taylor SP). These State and Federal parks make up a landscape level reserve of statewide significance that protects the natural resource values representative of the Coastal Steppe Mixed Forest Province. Given this proximity, and the population models presented in the Draft Plan, it seems highly likely that California State Parks will become populated by non-native deer if prompt corrective actions are not taken. Non-native deer have already been reported to occur in Tomales Bay State Park according to a Natural Resources Condition Assessment our Department conducted in 2001-02.

Similar to the National Park Service, California State Parks is mandated to protect and preserve native ecosystems. The presence of non-native animals is generally inconsistent with the Department's mission of maintaining native species and natural systems. It is the general policy of California State Parks that non-native animals not be maintained in the State Park System except to fulfill unit-specific State Park management goals.

The non-native deer population clearly competes with native deer populations and with other species for food, water, and cover. The non-native deer populations also have deleterious impacts on soils, water quality, and vegetation. Diseases known to be present in the non-native deer population must be prevented from spreading to native wildlife to the extent feasible.

California State Parks supports the preferred alternative, Alternative E, in the Draft Non-Native Deer Management Plan. To not undertake, or to delay, action to control the population of axis and fallow deer would perpetuate and exacerbate the problem so that an even more extensive and expensive control effort involving the eradication of more animals would be required.

Superintendent Neubacher
Page Two
April 7, 2005

Thank you for the opportunity to comment on this document. If you have any questions, please call Cynthia Roye, Associate State Park Resource Ecologist, at (916) 653- 9083.

Sincerely,

Richard G. Rayburn, Chief
Natural Resources Division

cc: Diablo Vista District
North Bay District

STATE OF CALIFORNIA
Governor's Office of Planning and Research
State Clearinghouse and Planning Unit

Arnold Schwarzenegger
Governor

Sean Walsh
Director

April 11, 2005

Don Neubacher
National Park Service
Point Reyes National Seashore
Point Reyes, CA 94956

Subject: Non-Native Deer Management Plan
SCH#: 2005022060

Dear Don Neubacher:

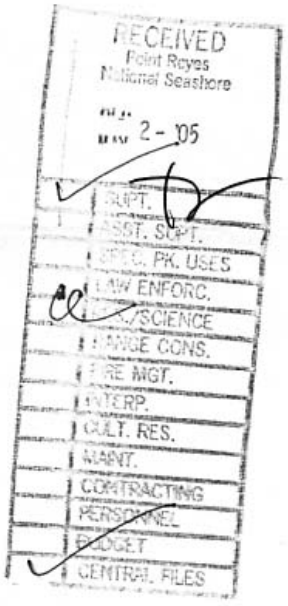
The State Clearinghouse submitted the above named Draft EIS to selected state agencies for review. The review period closed on April 8, 2005, and no state agencies submitted comments by that date. This letter acknowledges that you have complied with the State Clearinghouse review requirements for draft environmental documents, pursuant to the California Environmental Quality Act.

Please call the State Clearinghouse at (916) 445-0613 if you have any questions regarding the environmental review process. If you have a question about the above-named project, please refer to the ten-digit State Clearinghouse number when contacting this office.

Sincerely,

Terry Roberts

Terry Roberts
Director, State Clearinghouse



1400 TENTH STREET P.O. BOX 3044 SACRAMENTO, CALIFORNIA 95812-3044
TEL (916) 445-0613 FAX (916) 323-3018 www.opr.ca.gov

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

In Reply Refer to:
1-1-05-I-0035

April 7, 2005

Memorandum

To: Park Superintendent, Point Reyes National Seashore, National Park Service, Point Reyes, California (Attn: Ranger Natalie Gates)

From: Deputy Assistant Field Supervisor, Endangered Species Program, Sacramento Fish and Wildlife Office, Sacramento, California

Subject: Concurrence with Not Likely to Adversely Affect Determination for Nine Listed Species and Proposed Critical habitat for the California Red-legged Frog as a result of the Non-Native Deer Management Plan at the Point Reyes National Seashore and Golden Gate National Recreation Area in Marin County, California

This memorandum is in response to the U. S. National Park Service's March 10, 2005, request for the concurrence of the U.S. Fish and Wildlife Service (Service) for the proposed Non-Native Deer Management project at the Point Reyes National Seashore and Golden Gate National Recreation Area in Marin County County, California. Your request was received by this Field Office on March 14, 2005. Additional information was received from the National Park Service in a letter to the Service dated March 30, 2005, that was received by us on April 6, 2005. At issue are the potential effects of the proposed project on the threatened California red-legged frog (*Rana aurora draytonii*), threatened western snowy plover (*Charadrius alexandrinus nivosus*), threatened northern spotted owl (*Strix occidentalis caurina*), endangered California freshwater shrimp (*Syncaris pacifica*), endangered Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*), endangered Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*), endangered beach layia (*Layia carnosa*), endangered clover lupine (*Lupinus tidestromii*), endangered Sonoma spineflower (*Chorizanthe valida*), and proposed critical habitat for the threatened California red-legged frog. This response is provided pursuant to section 7(a) of the Endangered Species Act, as amended (16 U.S.C. 1531 *et seq.*)(Act), and in accordance with the regulations governing interagency consultations (50 CFR § 402).

This document is based on your March 10, 2005, letter and associated information; your March 30, 2005, letter; *Point Reyes National Seashore Threatened and Endangered Species Locations as of 2001*, undated, that was prepared by the National Park Service; and other information available to the Service.

It is our understanding the proposed project consists of the lethal removal and fertility control of all axis deer (*Axis axis*) and fallow deer (*Dama dama dama*) by the year 2020. A percentage of the fallow deer would be treated with an existing long-acting contraceptive, and both species of deer would be removed via shooting. The proposed management activities will take place in open flat grassland or scrub areas where deer can be safely handled for contraceptive administration or safely culled. No management activities will take place in creeks, waterways, or riparian areas. The culling would be conducted by National Park Service staff specifically trained in wildlife sharpshooting. Deer carcasses will be removed when possible; in cases where carcasses could not be accessed, they will be left in place to recycle nutrients into the ecosystem. Monitoring would continued until all non-native deer area eradicated by the year 2020.

The measures in the proposed project are sufficient to reduce any direct, indirect, and cumulative effects on the California red-legged frog, western snowy plover, northern spotted owl, California freshwater shrimp, Myrtle's silverspot butterfly, endangered Sonoma alopecurus, endangered beach layia, endangered clover lupine, endangered Sonoma spineflower to an insignificant or discountable level, or result in adverse modification or destruction of the proposed critical habitat of the California red-legged frog. Critical habitat for the other eight species has not been proposed, designed, or is located in the action area. Therefore, the Service concurs that the project, as described within your March 10, 2005, and March 30, 2005, letters and accompanying material, is not likely to adversely affect these nine listed species and proposed critical habitat for the California red-legged frog. If project work descriptions or time frames change, or were not evaluated, it is our recommendation that the changes be submitted for our review. This concludes our review of the actions outlined in the March 10, 2005, and March 30, 2005, letters and accompanying material, and no further coordination with the Service under the Act is necessary at this time. Please note that this memorandum does not authorize the take of listed species.

As provided in 50 CFR § 402.14, initiation of formal consultation is required where there is discretionary Federal agency involvement or control over the action (or is authorized by law) and if: (1) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this review; (2) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (3) a new species is listed or critical habitat designated that may be affected by the action.

We appreciate your proactive efforts to conserve and recover endangered species. Please contact Chris Nagano, Deputy Assistant Field Supervisor (Endangered Species Program), at the letterhead address or at 916/414-6600 if you have questions regarding this response.

cc:
Ranger D. Hatch, GGNRA, NPS, San Francisco, California
Ranger N. Hornor, GGNRA, NPS, San Francisco, California
Ranger D. Fong, GGNRA, NPS, San Francisco, California
Ranger S. Allen, PRNS, NPS, Point Reyes Station, California
Gary Fellers, USGS, Point Reyes Station, California

4/6/2005 7:41 PM FROM: visualpoint.com-usr TO: 84,,14156638132 PAGE: 001 OF 001

Wednesday, April 6, 2005

Ann Nelson
Point Reyes National Seashore
National Park Service
Point Reyes National Seashore
Point Reyes, CA 94956

Dear Point Reyes National Seashore Nelson,

Thank you for the opportunity to contribute to the planning process at Point Reyes National Seashore. I applaud the excellent work you've done in the past, and as you finalize your management plan I encourage you to choose Alternative D – a proactive approach to the problem of axis and fallow deer.

The park is at a critical juncture in its relationship with non-native deer. Because of the deer's expansive nature, the disruption they cause to Point Reyes' native ecosystem could become irreparable. With the Park Service mandate to protect and restore native ecosystems, I believe the park must adopt a plan that can address these issues based on its human and financial resources. If action is not taken soon, proactive solutions will pass us by. Point Reyes must have a roadmap to deal with these ever-expanding species before it's too late.

As you well know, the invasive axis and fallow deer are disruptive in a number of ways. In addition to disturbing native flora and out-competing native fauna, they pose threats to endangered species like the red-legged frog and coho salmon that you've worked so hard to protect. As they grow in population and gain more ground, the deer might become more aggressive toward park visitors. In addition, the financial drain is significant for nearby ranchers, the community at large, and a Park Service already struggling with inadequate budgets. I understand that you have limited staff and resources to deal with monitoring the spread of disease through these invasive animals, which is why an aggressive program that begins now will make all the difference in the future.

Thanks again for this opportunity to voice my support for Alternative D for Point Reyes National Seashore.

Sincerely,

Frank Holmes
6965 Holt Drive
Colorado Springs, CO 80922 - 1608
fsholmes2@msn.com

joslynb@sbcglobal.net
03/01/2005 06:26 PM
GMT

To: ann_nelson@nps.gov
cc:
Subject: Possibly Spam: Spare the Exotic Deer of Point Reyes National Seashore

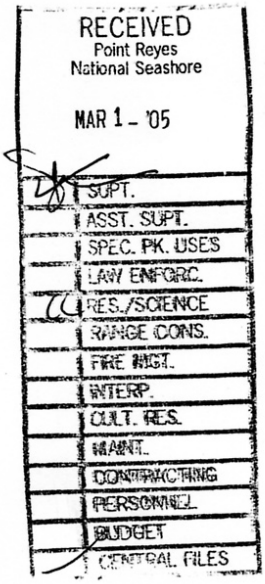
Ms. Ann Nelson

Dear Ms. Nelson,

Please cancel plans to kill deer in the Reyes Point National Seashore. The exotic deer are in the park because of human action. They were placed on a private ranch for hunting purposes in the 1940's. We now have an ethical responsibility to devise a humane and non-lethal approach to managing them. The culling plan is inhumane and further, the Draft Environmental Impact Statement (DEIS) lacks evidence to indicate that the fallow and axis deer are negatively impacting the environment or other species in the park. The DEIS lacks full and objective information about the feasibility of wildlife contraception methods. The Statement should include an analysis of the feasibility of wildlife contraception, written by experts in the field. Further, the DEIS lacks an alternative that just considers management of the axis and fallow deer through contraception alone. The axis and fallow deer are a special and important part of the visitor experience to the National Seashore and this unique wildlife viewing opportunity should not be destroyed. Please let me know that you will cancel this plan. Thank you for your time and attention.

Sincerely,

Joslyn Baxter
3907 26th Street
San Francisco, California 94131



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Vice President & Senior Counsel

8 April 2005

Don L. Neubacher,
Superintendent
Point Reyes National Seashore
Point Reyes, CA 94956
Transmitted via Mail and Email: ann_nelson@nps.gov

Re: Draft Environmental Impact Statement: Non-Native Deer Management Plan

Dear Mr. Neubacher:

On behalf of The Humane Society of the United States (HSUS) and our more than 8.5 million members and constituents, I appreciate this opportunity to provide input on the Draft Environmental Impact Statement (DEIS) on Non-Native Deer Management in Point Reyes National Park (PORE).

While we are sympathetic with the National Park Service's (NPS) concerns for the protection and restoration of native ecosystems on park lands, the DEIS demonstrates that there is, to date, very little documentation of negative impacts of fallow and axis deer on native wildlife, water resources, vegetation, soils, or other natural resources at PORE. The lack of documentation for such impacts calls into question the need for action.

Executive Order 13112 mandates environmentally sound control of invasive species but, as NPS is aware (see DEIS, p. 28), not all non-native species are invasive. While the Point Reyes National Seashore General Management Plan does not appear to differentiate between non-native and invasive species, and does require exotic plant and animal "reduction," it does not require eradication. The more recent PORE Resource Management Plan addresses the "control" of non-native animals (and plants) "that disrupt natural (ecosystems) or prevent their restoration." It apparently does not (at least according to the sections quoted in the DEIS) require eradication, and does not require control or eradication of non-native animals that do not disrupt natural ecosystems. The 2001 NPS Management Policies also require "management" of non-native species if the species "interferes with natural processes and the perpetuation of natural features, native species or natural habitats," but again do not require eradication.

In other words, none of the policies, executive orders, or management plans cited in the DEIS require eradication, and all or most recognize that there is a distinction between non-native species that are invasive vs. those that are ecologically relatively benign. While research into potential impacts of non-native species could become endless and may be viewed as a delay of necessary

Promoting the protection of all animals
2100 L Street, NW, Washington, DC 20037 ▪ 202-452-1100 ▪ Fax: 202-778-6132 ▪ www.hsus.org

management, it appears that such research on the impacts of fallow and axis deer at PORE (or even at other similar sites) has hardly even begun. Before undertaking such an intensive, long-term, and controversial management action that will impact the welfare of fallow and axis deer, NPS must first demonstrate that fallow and axis deer are, indeed, having the detrimental effects that they are alleged to be having. And NPS must also demonstrate that the proposed action (Preferred Alternative) will measurably contribute to the restoration of native wildlife and natural ecosystems within PORE. This second point is important because, while the Preferred Alternative may effectively reduce non-native deer populations (or eradicate them), it is not clear whether control or eradication would help NPS achieve the desired ecological state of the park (e.g. by allowing native cervid populations to increase and reducing ungulate impacts to soil, vegetation, and water resources). At this point, NPS has neither documented negative impacts due to non-native deer, nor shown whether eradication (or control) of non-native deer has the potential to reverse any such negative impacts.

We acknowledge that NPS has done population modeling to roughly estimate the number of deer that would be killed or handled under different management scenarios, and to gauge the feasibility of different management techniques (sharpshooting and fertility control) in achieving eradication. This is an important component of any management plan and we appreciate that the modeling exercises indicate the possibility of reducing the number of deer killed by combining lethal control with fertility control. However, these careful predictive models should have been preceded by equally careful studies to document impacts of fallow and axis deer, determine whether their impacts go beyond those of native cervids (including whether they actually displace native cervids), and modeling to help predict how eradication versus control or no management would affect native ecosystems.

Furthermore, the dairy and beef cattle operations will apparently remain within PORE at least for the near term; these operations are, themselves, likely to be negatively impacting native ecosystems. Because NPS is not planning to remove the cattle operations from the park at this time, it will be impossible for the park to fully restore natural ecosystems. The presence of, not only non-native wildlife which may or may not be impacting native ecosystems, but also domesticated ungulates in PORE, also suggests that the eradication of non-native deer is, at the very least, not a crisis in need of immediate resolution and could be replaced with a plan to at least begin filling in the research gaps before taking action.

Specifically, the justification for the Preferred Alternative (Alternative E), or in fact for any alternative other than the No Action alternative, appears to be based almost entirely on *potential* impacts of fallow and/or axis deer populations, especially at population sizes larger than those that exist currently in PORE.

With respect to impacts of non-native deer on water resources and water quality, the DEIS acknowledges (p. 137) that "little is known about the specific impacts of non-native deer at the Seashore on water resources" and uses impacts of cattle, and/or ungulates generally, to approximate the impacts of non-native deer at PORE. Behavioral characteristics of fallow deer, such as their tendency to congregate in large numbers and remain in one area for long periods, are described anecdotally and are used to suggest that fallow deer impacts are probably similar to those of cattle or other confined ungulates. However, first, cattle are at PORE (even if fenced

from some sensitive areas) and will remain there for the near term at least, continuing to have whatever impact they may be having whether or not the non-native deer remain. Second, no evidence is presented in the DEIS to show that fallow or axis deer are having any negative impacts on water quality or that the anecdotally described "thrashing" behavior during the rut causes permanent damage to water resources. Third, the DEIS does not show that any impacts non-native deer may be having on water quality go beyond the impacts of the native cervids that evolved in association with the riparian ecosystems addressed in the DEIS. The behavioral characteristics of fallow deer (but probably not axis deer) might suggest a hypothesis of greater impacts on water resources, but such an hypothesis has not been empirically tested.

Regarding impacts on vegetation and soil, the DEIS again relies upon the literature regarding the impacts—or ecological interactions—of ungulates generally, both native and non-native. Any impacts that the cattle may have on vegetation and soil will, of course, continue indefinitely because the cattle will remain in the park under this management plan. Furthermore, the DEIS fails to acknowledge that native wild cervids in PORE are likely to have effects on vegetation and soils that are very similar to those of fallow and axis deer. The DEIS indicates (p. 147) that at "one riparian restoration area in particular, John West Fork of Olema Creek, NPS staff has observed extensive damage to native willows (*Salix spp.*) in areas excluded from livestock access...." But there is no indication of whether native cervids might have similar impacts in the future (or currently). At Yellowstone National Park, for example, it has been widely reported in both the scientific literature and the media that the return of the gray wolf to Yellowstone has helped reduce elk pressure on willows, which has in turn been a boon to wetland and riparian ecosystems. If the untested assumption that non-native deer compete with native cervids were correct, then non-native cervid removal would likely allow tule elk and/or black-tailed deer populations to increase and to use areas currently used more by non-native deer. This in turn would likely allow elk and/or black-tailed deer to impact vegetation and soil (as well as other wildlife and other park resources) in a way that may be qualitatively and quantitatively equivalent to that of the non-native deer currently.

Regarding impacts of non-native deer on native wildlife, the DEIS again relies on untested assumptions or "potential" impacts, as well as a few studies of ungulate diet and dietary overlap among species. The key finding of concern to the NPS appears to be the overlap between the diet of black-tailed deer and that of both non-native deer species in times of drought and at the end of the summer, as well as the overlap in diet among elk and the two non-native deer species. As the DEIS acknowledges (p. 149), information about diet or dietary overlap is not sufficient to conclude that interspecific competition is occurring and is limiting black-tailed deer or tule elk populations in PORE. The DEIS describes the scientific literature regarding poor condition of female cervids and reduced fertility as a result of food shortage. This is certainly a concern if it is occurring, but the DEIS presents no evidence that it is happening. The observations of behavioral displacement of tule elk by fallow deer suggest that research is needed to quantify this displacement and to determine whether it is associated with decreased foraging, lower body condition, or reduced reproductive output in elk. With respect to the susceptibility of native (and non-native) cervids to livestock diseases, we have found nothing in the DEIS to suggest that the mere presence of non-native deer actually increases the risk of disease transmission to tule elk or black-tailed deer (i.e. above the risk that would exist if all cervids in the park were native).

3

We appreciate that NPS is not considering public hunting as an option in non-native deer management. The HSUS believes that public hunting is an inappropriate activity for National Parks and National Seashores. We agree that, even if non-native deer eradication (by any method) could be justified, public hunting is unlikely to be effective in achieving such an eradication and would likely result in unnecessary pain, injury, and distress to affected deer.

We also appreciate that NPS has selected a Preferred Alternative that combines non-lethal management with lethal control, rather than selecting a lethal-only alternative. However, as we explain above, there is little evidence of "invasiveness" of the non-native deer at PORE. Again, we understand NPS' concerns that are based on anecdotal evidence and limited research on diet and dietary overlap. But we suggest that, at this point, rather than initiating a long-term and intensive management action that may prove to have little real benefit, the NPS instead withdraw this DEIS and initiate much needed research into the impacts of fallow and axis deer on native ecosystems within PORE, both at current population sizes and at projected future population sizes. Examples of research questions include, but are not limited to: (1) whether displacement of tule elk by fallow deer results in reduced time foraging by elk, reduced body condition of elk, or reduced reproductive output by elk; (2) whether dietary overlap between native and non-native cervids reduces forage or cover available to native wildlife and in turn limits the survival and/or reproduction of native wildlife; (3) whether non-native deer impacts on soil, vegetation, and water resources is qualitatively or quantitatively different from impacts of native cervids; and (4) whether presence of non-native deer measurably increases the risk of transmission of livestock diseases to native cervids. Addressing these and other research questions would provide a solid scientific basis for any future management decisions and would allow the NPS to determine whether management of non-native deer is necessary to restore and protect native ecosystems, whether and how eradication or control will benefit native ecosystems, and whether fertility control alone could be used to achieve eradication (or control) especially if long-lasting (or permanent) or easily delivered contraceptives become available in the near future.

In addition, we suggest that NPS fully explore an alternative that would result in elimination or a gradual phase-out of livestock operations within PORE. The livestock diseases to which native cervids are susceptible will continue to pose a risk to native cervids as long as livestock remain in the park, with or without the presence of non-native cervids. Furthermore, as the DEIS acknowledges, the concentrated livestock operations are almost certainly degrading park resources (e.g. DEIS p. 148). Though the DEIS notes that these ranching operations have been reduced to "only 25%" of the overall land area, we find it incredible that a National Seashore would maintain so much land in agricultural operations that "might adversely affect several threatened and endangered species at the park," according to the U.S. Fish and Wildlife Service's Biological Opinion (referenced on p. 34 of the DEIS). A full quarter of the park's land area is used for concentrated dairy and beef cattle operations, and this will be allowed to continue while fallow and axis deer will be eradicated in an attempt to restore natural ecosystems despite a lack of evidence that these deer are degrading ecological processes in the park. The DEIS notes that changes in policies regarding livestock operations are possible in the near future with the next round of general management planning. We strongly urge the NPS to make such policy changes the management priority for the near future. With respect to non-native deer, the immediate need is research, as suggested above.

4

However, if NPS undertakes management actions to control or eradicate non-native deer despite the current lack of scientific justification, we believe that a more reasonable approach at this time would be an alternative combining research on non-native deer impacts with fertility control. We suggest that NPS revise this DEIS to evaluate an alternative that would combine research (such as that suggested above) with fertility control. This would allow NPS to shore up scientific understanding of non-native deer impacts at PORE but would also allow for non-native deer management to begin, even in the absence of scientific support for the need for or effectiveness of such management.

Again, we appreciate the opportunity to comment on this important matter.

Sincerely,

Bette Stallman, Ph.D.
Wildlife Scientist
Wildlife and Habitat Protection

5

The
NATIONAL HUMANE
EDUCATION SOCIETY
Fostering a sentiment of kindness to animals

April 8th, 2005

Superintendent John Dell'Osso
Point Reyes National Seashore
Point Reyes, CA 94956

Dear Superintendent Dell'Osso,

I am writing on behalf of The National Humane Education Society (NHES) and its 400,000 supporters nationwide—many of whom are California residents—to strongly urge the Point Reyes National Seashore to implement only humane methods of population control for the growing number of Fallow and Axis deer on the national park land.

As a non-profit organization which promotes the humane treatment of all animals, NHES is opposed to cruelty to animals in any form, and we are therefore, adamantly opposed to the use of mass killing as a form of wildlife population control. Specifically, NHES is strongly opposed to the proposal of exterminating the Fallow and Axis deer population via hunting.

Further issues of consideration:

- *Net Loss of Revenue:* Many wildlife watchers stop going to parks when they feel unsafe and displeased by hunting; this comes as significant loss of revenue as there are far more wildlife watchers then hunters.
- *Unnecessary Strife:* Often wildlife must endure hunting seasons outside of park lands, and must also adjust to increasing human development. National parks may be the last safe haven wild animals have from unnaturally arduous stresses.
- *Not Effective Population Control:* There is currently no solid evidence supporting hunting as an effective management tool for overpopulation, diseases, nuisance animals, or protection of endangered species.
    - Furthermore, at this time there is no solid evidence supporting the suggestion that Fallow and Axis deer are negatively impacting the environment or harming the native Black Tail deer.

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Charles Town, WV 25414-0340
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www.nhes.org

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AFFILIATE:
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ANIMAL SANCTUARY
12752 State Hwy. 206
Walton, NY 13856-2327
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www.ppasny.org

PROGRAM:
BRIGGS ANIMAL
ADOPTION CENTER
P.O. Box 1023
Charles Town, WV 25414-10
Phone 304/724-6558
Fax 304/724-6765
www.baacs.org

With these facts in mind, NHES adamantly requests that Point Reyes National Seashore pursue humane methods of population control for the Fallow and Axis deer. In place of killing these sentient creatures, we highly encourage the park to use humane methods such as relocation of deer to less population areas of land, and the use of contraceptives to deter excessive reproduction.

In closing, NHES feels that the creation and enactment of laws pertaining to the humane treatment of *all* animals is of utmost importance. To allow animals neglect and/or abuse is a definite risk to a community and society as a whole. By utilizing humane wildlife population control within national parks, we can remain one step closer to a more humane society.

Thank you very much for your time and effort regarding this issue. NHES will also continue to work for animal welfare and responsible and humane communities nationwide. I look forward to your positive influence on this situation.

For the animals,

Maria Keith

Maria Keith
Humane Education Assistant

IN DEFENSE OF ANIMALS

April 3, 2005

Mr. Don Neubacher
Superintendent
Point Reyes National Seashore
Point Reyes Station, CA 94956

Via Fax (415/663-8132) and Email: ann_nelson@nps.gov
16 Pages

Dear Mr. Neubacher:

Please accept this letter as comments on the Non-native Deer Management Plan Draft Environmental Impact Statement (DEIS) submitted on behalf of In Defense of Animals.

We are disappointed in this document because we believe it is not an objective assessment of the situation with the non-native deer at the park, nor is it an adequate evaluation of the non-lethal alternatives available to the park for controlling the exotic deer populations.

In reading the DEIS document, we are struck by the lack of scientific documentation indicating that the deer are negatively impacting the natural resources of the Pt. Reyes National Seashore (PRNS). We are also struck by the lack of hard data to support the Berkeley computerized population projections. We recall how far off these projections were regarding the carrying capacity of the tule elk range in the early 1990's.

While we recognize your legitimate concerns about the deer colonizing outside the park, it is also clear that the deer are not having significant negative impacts on the park environment at present. As a result, the park has the luxury of time to undertake non-lethal fertility control programs that could impact population growth of both species over the long run.

We believe that the DEIS is woefully inadequate in its exclusion of a strictly non-lethal, alternative for managing the deer population. The section describing the feasibility of immunocontraception and immuno-sterilization is also woefully inadequate and appears to have been written by biologists philosophically opposed to wildlife contraception.

We believe that no discussion of non-native deer extirpation through lethal means can occur while cattle graze nearly 20,0000 acres. These cattle are far more destructive to the park's natural resources than the non-native deer could ever be. The park should conduct an Environmental Impact Statement (EIS), in accordance with NEPA, thoroughly addressing the significant environmental impacts of agricultural lease renewals on the PRNS before completion of the non-native deer management plan. NEPA requires that the cumulative

IN DEFENSE OF ANIMALS • 131 CAMINO ALTO, SUITE E • MILL VALLEY, CA 94941 • 415/388-9641

process for only non-native species, you have looked at only one side of the equation. More is required under NEPA before lethal extirpation of the non-native deer could be legally or ethically justified.

Clearly public opinion favors non-lethal, humane management of these deer species. The DEIS should be re-written to include a preferred alternative of non-lethal management methodologies and the PRNS should rely on actual experts in the field of wildlife fertility control in its assessment of this alternative.

More detailed comments are attached to this letter.

Sincerely,

Suzanne Roy
Program Director
In Defense of Animals
919/732-8978
Suzanne.e.roy@earthlink.net

Attachment: Specific comments on DEIS
U.S. District Court, District of Columbia Civil No. 98CV2355 (RMU)
Abstract: Zoo Biology, Vol. 22, Issue 3, Pages 261-268

IN DEFENSE OF ANIMALS

April 4, 2005

Mr. Don Neubacher
Superintendent
Point Reyes National Seashore
Point Reyes Station, CA 94956

Via Fax (415/663-8132) and Email: ann_nelson@nps.gov

1 Page: Addendum to IDA's Comments on the PRNS Non-native Deer Management Plan Draft Environmental Impact Statement (DEIS)

Dear Mr. Neubacher:

I have just been in touch with Dr. Jay Kirkpatrick. He reports not only does pZP work fine in fallow deer (as stated in the Zoo Biology article included with my comments), but also that the antibody titers remain very high for a long period of time. This means that after the first two or three years of treatment, the deer do not have to be treated annually. His current estimate is that they would have to be treated once every four to five years after that. He reports that this is different from white-tail deer and seems to be species-specific in fallow deer.

The omission of the latest published research on immunocontraception in fallow deer, and the failure of the DEIS author to contact Dr. Jay Kirkpatrick, the leader in the field of immunocontraception is a major shortcoming of this document. It is disappointing that your staff did not prepare a more objective assessment of this cutting-edge wildlife management technology.

Sincerely,

Suzanne Roy
Program Director
In Defense of Animals
919/732-8978
Suzanne.e.roy@earthlink.net

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IDA COMMENTS ON PRNS NON-NATIVE DEER MANAGEMENT PLAN DRAFT ENVIRONMENT IMPACT STATEMENT
April 3, 2005

I. Overview

The 2001 NPS policy regarding non-native species "specifically requires managers to manage all non-native species not maintained for an identified park purpose, up to, and including eradication, if control is prudent and feasible and the species "interferes with natural processes and perpetuation of natural features, native species or natural habitats."

In its preferred alternative, PRNS seeks to eradicate the non-native deer primarily through lethal culling activities, supplemented by small-scale immunosterlization trials. Through the DEIS, however, the park has failed to demonstrate that this extermination of the axis and fallow deer from PRNS is justified.

The DEIS lacks evidence that the non-native deer species are interfering with the natural resources of the park in any significant way. Further, the DEIS failed to adequately explore the impacts of culling on the natural resources of the park, a factor that could render massive sharpshooting and extirpation of the deer imprudent. Finally the DEIS failed to realistically assess the ability of culling to eradicate non-native deer from the park, a factor that would make the PRNS preferred alternative infeasible and not in accord with the 2001 NPS directive.

II. There is no scientific documentation to indicate that the axis and fallow deer are negatively impacting native species in the park.

The NPS has clearly failed to ensure the scientific integrity of the DEIS's analysis of the impacts of culling non-native deer on the Park's resources, as is required by the Council on Environmental Quality (CEQ) regulations. See 40 C.F.R. § 1502.24. This is demonstrated clearly in the summary statement:

> "Some of the more serious effects these non-native deer have at the seashore include possible competition with, and displacement of native tule elk and black-tailed deer... the *potential* for transmitting disease to these native ungulates, and heavy use of and resulting impacts to riparian habitat and *presumably* to the native wildlife dependent on these habitats." (p. 24, Emphasis added)

A. Many of the impacts cited are either minor or speculative:

> "Current impacts to water quality and resources from non-native deer in the park are minor. . ."
>
> "Soils *could* be affected by non-native deer in several ways. . ."

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> "Deer, and other ungulates, *can cause* a variety of impacts on vegetation"
>
> "Damage to riparian and understory vegetation within the seashore is currently considered minor in intensity."
>
> "Non-native deer, *can* affect native wildlife . . ."
>
> "To date, no direct effects have been noted on the productivity or survival of [spotted] owls."
>
> "Western snowy plovers nest along the sandy beaches of the Seashore that *may* also be used sporadically by axis deer."
>
> "Fallow deer regularly frequent riparian areas where California red-legged frog live and/or breed. They *can* destroy vegetation by trampling or eating plants, and by thrashing their antlers during the rut. Overall the adverse impacts . . .. would be minor and long term."
>
> "To date it is not known whether the non-native deer browse on the preferred nectar or larval host plants of the [Myrtle's silverspot] butterfly. However, research elsewhere suggests that they *may* graze on species similar to the one plant that serves as a larval host for Myrtle's silverspot butterfly at PRNS."

B. Future impacts are based on questionable computer models of population growth curves.

These computer models have been demonstrated to be faulty before, as in the case of wrong estimates of the carrying capacity of the tule elk range, which have been revised upwards by hundreds of animals since the original modeling projections – made by the same U.C. Berkeley scientists – were generated in the early 1990's.

The computer models are not based on real field data. Data that PRNS lacks include:

- Studies that look at the reproductive rate for fallow, axis, black tailed deer and tule elk as impacted by amount and distribution over a year of rainfall. This actual data could be collected through fecal samples and weather records.
- Evaluation of whether vegetation in areas where fallow deer live is different in biomass and/or species varieties than in areas where they do not live;
- Examination of the degree of overlap in the diet between the fallow, axis, and black-tailed deer and tule elk.

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This real data could be generated by scientists doing work in the field as opposed to those sitting behind their desks working on computer models that have been proved wrong in the past.

One actual study is apparently underway. Page 123 of the DEIS states that an analysis of ungulate fecal pellets by Humboldt State University has been ongoing since 2000. The DEIS states that this study should be able to identify any overlap between the tule elk diet and the fallow deer diet in the Limantour area of the PRNS. However, the data is not yet in, and the assumptions in the DEIS about fallow deer impact on vegetation and native tule elk species are premature.

C. The DEIS relies on anecdotal information to suggest a negative impact of the non-native deer on native species.

- For example, the DEIS mentions unpublished data of fallow bucks observed sparring with tule elk bulls and chasing them off. No information is given on the number of bulls involved or of the frequency with which this behavior has been observed. IDA is aware that one male fallow buck was seen challenging tule elk males around the time of the rut. This was considered to be an odd an exceptional animal – who has been seen trying to herd female elk around but not being very successful at it.

D. The DEIS makes speculations that do not seem to be grounded in reality.

The DEIS states:

> "resource managers are concerned that [the tule elk] *may* be kept from fully occupying habitat in PRNS [at the Limantour site] by competition from fallow and/or axis deer."

With 38 elk on 22,0000 square acres at that site, this speculation stretches the limit of credibility.

E. The DEIS relies on studies of questionable relevance to the situation at PRNS.

The relevance of studies in New Zealand of high-density populations of fallow deer out-competing native red deer is questionable. Too few variables are described to know whether extrapolation from that situation to the PRNS situation

III. There can be no justification for extirpation of non-native deer through lethal means while non-native, environmentally destructive, cattle continue to graze tk acres of the PRNS.

A. Cattle have far greater environmental impacts on the park than do non-native species.

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PRNS cites a Biological Assessment, conducted under the Endangered Species Act, to analyze the effect of agricultural lease renewals on special status species in the park. PRNS reaches the illogical conclusion that ranching with 6,350 non-native cattle on 18,900 acres of the national seashore is not likely to jeopardize these species, while it uses speculation, anecdote and supposition to conclude that the 860 fallow deer and the 250 axis deer in the park will negatively impact these species.

PRNS should undertake an objective assessment, in accordance with NEPA, of the environmental impacts of ranching lease renewals in the park. The final EIS on the management plan for the non-native deer should include an alternative that considers eliminating ranching and dairy operations from the park. Such a plan would create thousands of acres more habitat for native species and would change the equation with regard to concerns about non-native deer.

NEPA requires that "connected actions, which means they are closely related" should be "discussed in the same document. (CEQ Regulation 1502) The DEIS considers only one side of the equation – the impacts of non-native deer – without considering the impacts of cattle and their interrelatedness with overall impacts to the PRNS ecosystem.

The DEIS also discusses the impacts of the non-native deer on ranching operations. In doing so, it exaggerates these impacts – in reality only 4 of 26 ranches reported problems of minor intensity. IDA does not believe that the objective of the park to eliminate the non-native deer to lessen impacts on ranching within the PRNS is legitimate or legally justified.

The DEIS discusses the potential that non-native deer carry paratuberculosis, but does not state that the deer got the disease from the cattle in the first place. Paratuberculosis is endemic to the West Marin region, due to the predominance of ranching activities there. The DEIS states the prevalence of paratuberculosis was about 10% and 8% in axis and fallow deer, respectively, but does not state the prevalence of the disease in cattle in the region.

Again, this is an issue that has been distorted in the DEIS – suggesting that the non-native deer are vectors for this disease without reporting that the disease, is in fact, endemic to cattle and dairy ranching in West Marin. It is the cattle that are the real reservoir of this disease and pose the most risk to native wildlife.

In addition, the chances that paratuberculosis will become more of a problem will be increased by culling, as a stressed population is more susceptible to this disease. Culling could increase chances of disease transmission to cattle and native wildlife. This impact should have been explored in the DEIS.

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III. The DEIS failed to include an alternative that involved a strictly non-lethal fertility control program for management of the deer.

A. The DEIS did not objectively evaluate the potential of immuno-contraception and immuno-sterilization for control of the non-native deer species.

NEPA requires that an environmental impact statement should "rigorously explore and objectively evaluate all reasonable alternatives . . . " (CEQ Regulation 1502).

The PRNS officials dismissed the feasibly of non-lethal population management without out consulting leaders in the field of wildlife contraception for their assessment.

The DEIS appears to have been prepared by biologists who are philosophically opposed to wildlife fertility control

- Park biologists met with community groups as long as 2 years ago and stated that contraception was not feasible. This conclusion was reached before any environmental analysis was prepared.

- Park biologists used unscientific statements to support their contention about the infeasibility of fertility control. One example is the claim that immunocontraceptives could get into the food chain if a deer is preyed upon by a mountain lion or hunted by people and used for meat. This is untrue. According to Dr. Jay Kirkpatrick, the pioneer of the immunocontraceptive porcine Zona Pellucida (pZP), "The vaccine is a non-microbial protein molecule, which can't go through the food chain even if you wanted it to." Dr. Kirkpatrick states if that was possible scientists wouldn't have to go out and dart the animals, they could just feed them the contraceptive drug. (email communication 3/14/2005)

B. The DEIS selectively quotes the scientific literature to make a case against the use of fertility control in non-native deer.

The DEIS states:

> " No published reports exist of pZP's effectiveness in preventing fallow deer from reproducing; however Kirkpatrick concludes from unpublished data that a yearly pZP vaccine would be "ineffective in fallow deer" (Kirkpatrick, et. all 1996a and b)." (Pg. 42, Emphasis added.)

The DEIS ignores recent published data indicating that fawn production was "reduced significantly" in two herds of semi-free ranging fallow deer inoculated

with pZP. ("Immunocontraception of captive exotic species: Contraception and population management of fallow deer," Zoo Biology, Vol 22, Issue 3, p. 261-268, June 2003. (See attached abstract.)

C. The DEIS, without foundation, rejects out of hand the use of SpayVac, a longer-acting immunocontraceptive on axis deer.

It states:

> "No long-acting contraceptive currently exists for axis deer. . . .annual contraception is ineffective in reducing the population of axis deer to 350." (p. 44)

Yet on Page 42, the DEIS states,

> "Immunocontraception with the porcine Zona Pellucida (pZP) vaccine has also been shown to prevent conception for 1 year in a variety of deer species, including axis deer. (Kirkpatrick, et. al. 1996) "

The DEIS fails to state that SpayVac, the immunocontraceptive/sterliant the park proposes to pilot is just a longer-acting version of the pZP vaccine.

D. The latest information about immunocontraception in fallow deer is not included in the DEIS.

No mention is made of the pilot study currently underway on private land in South Carolina with SpayVac on fallow deer. In that project, a South Carolina marsh of 3 square miles and 600 deer, 87 deer were caught, tagged and immunized in a one-month period. (Allen Ruttberg, Tufts University, telephone conversation, 3-22-05)

D. The DEIS states that a fertility control program large enough to manage the non-native deer without lethal control is too labor and cost intensive without considering the volunteer expert assistance and private funding that would be available to PRNS for a progressive, non-lethal fertility control program.

As one example of private funding availability, the Bosack Kruger Foundation awarded PRNS a $40,000 grant to underwrite the tule elk immunocontraception project in the mid- 1990's. In addition, public support for a non-lethal program is strong; contributions from the public to underwrite such a program could be made to the Pt. Reyes National Seashore Association. This aspect of resource availability for the park was completely overlooked in the DEIS.

E. DEIS rejects out of hand the feasibility of fertility control programs, again basing its conclusion on unverified, theoretical computer models and as cited above, selective citing of the scientific literature. This conclusion is reached before the results of the pilot study of SpayVac on fallow deer (Exotic Deer Immunosterilant, PORE *PMIS Number 67856*) are known.

IDA COMMENTS ON PRNS NON-NATIVE DEER MANAGEMENT PLAN DRAFT ENVIRONMENT IMPACT STATEMENT
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IV. The DEIS does not adequately explore the effectiveness or the impacts of culling on the park.

A. The DEIS overestimates the ability of park sharpshooters to exterminate the non-native deer from the park.

The DEIS does mention that once shooting begins, deer may move to various inholdings of private land in and around the park. One of these, the Vendanta property, has stated unequivocally that they will not allow park sharpshooters to kill any deer on their property. This means that there will be a refuge for the non-native deer in Olema Valley, making their total elimination highly unlikely.

B. The DEIS failed to explore the likelihood that culling will actually increase the incidence of non-native deer leaving the park.

Sharpshooting activities will create pressure on the non-native deer population to leave park boundaries for private inholdings or areas beyond park boundaries where hunting is rare. The low incidence of hunting in Marin County means that it will be safer for non-native deer outside the park then inside the park. This action could actually create an effect opposite to PRNS's goal of decreasing the number of deer leaving park boundaries.

C. The DEIS failed to examine the impact of culling on paratuberculosis infection of the non-native deer herds.

Published research shows that paratuberculosis affects young, old and weakened animals. A stressed population will be more vulnerable to paratuberculosis. If the incidence of paratuberculosis in the non-native deer populations increases, and the non-native deer leave the park in increasing numbers, then spread of paratuberculosis could become a real issue. Currently, only a small percentage of deer carry the disease and few seem to be affected by it.

D. The DEIS failed to adequately assess the impact of culling on other wildlife species in the park.

- The DEIS did not adequately examine the impacts of culling activities on native deer. These include: increased human intrusion into deer habitat, noise, stress from shooting, and increased predation due to decrease in non-native deer population.
-

IDA COMMENTS ON PRNS NON-NATIVE DEER MANAGEMENT PLAN DRAFT ENVIRONMENT IMPACT STATEMENT
April 3, 2005

- The DEIS did not adequately assess the impact of culling activities on endangered and threatened species, such as the spotted owl, in the park, including any site-specific discussion of where sharpshooting is expected to take place, and what ESA-listed species may be affected. These include: increased human intrusion into habitat, including wilderness areas, noise, stress from shooting and possible conflicts with Fish and Wildlife Service Species Recovery Plans.

- The DEIS presents insufficient details on culling activities, such as numbers of sharpshooters, duration of shooting, specific vehicular intrusions on habitat, etc. for the public to make an informed decision about the impacts of culling activities on wildlife in the park.

- The DEIS does not address the fact that culling activities and the resultant increased human intrusion onto habitat are counter to the goals of minimizing human impact on wilderness areas and habitat for special status species.

- The PRNS does not appear to have undertaken a Section 7 consultation with Fish and Wildlife Service with regard to the impact of culling/extirpation activities on protected species, as required under the Endangered Species Act. Particularly with respect to the ESA-listed bird species in the Park, including the Northern spotted owl and the plover, acoustical disturbances from sharpshooting will undoubtedly have an effect on any species that are in the vicinity. Although the EIS failed to identify, much less discuss in any meaningful detail, the impacts that culling in the Park may have on these species, and has nowhere explained exactly where sharpshooting is to occur, all of the impacts discussed above warrant further analysis by the NPS and the FWS through ESA section 7 consultation. Indeed, without such analysis, there is certainly a risk that sharpshooting in the project area could result in a prohibited "take" of these species under ESA section 9, by either "harm[ing]" or "harass[ing]" them within the meaning of the ESA. See 16 U.S.C. § 1538(a)(1)(B); 50 C.F.R. § 17.3.

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April 8, 2005

Mr. Don Neubacher, Superintendent
Point Reyes National Seashore
Point Reyes Station, California 94956

Re: National Park Service Non-Native Management Plan/Draft Environmental Impact Statement – Point Reyes National Seashore

Dear Superintendent Neubacher:

On behalf of the Marin Conservation League's Board of Directors, I am writing to voice MCL's strong support for the National Park Service's Preferred Alternative which would eradicate both species of non-native deer from the Point Reyes National Seashore by 2020 in the December 2004 Non-Native Management Plan/Draft Environmental Impact Statement - Point Reyes National Seashore (hereinafter Draft Plan). The League, whose mission is to preserve, protect and enhance the natural assets of Marin County, is deeply concerned about the significant impacts that exotic species are having on biological diversity and our ecosystems – both locally and worldwide.

The presence of hundreds of Axis deer (*Axis axis*) and Fallow deer (*Dama dama*), both non-native cervids introduced decades ago into what is now the Point Reyes National Seashore, not only are competing directly with native species for food and cover, but are also degrading their habitats by adversely impacting the area's soils, vegetation and water. Failing to address these problems through a scientifically-based deer management plan will only perpetuate and amplify these impacts within the National Park boundaries and eventually throughout Marin County.

MCL has carefully reviewed the Draft Plan alternatives and believes that the Service compellingly demonstrates that Alternatives B and C, which call for controlling non-native deer numbers for both species at a pre-determined level, are biologically and scientifically misguided and uneconomic. If adopted, these actions would result in thousands of animals being killed in perpetuity, millions of dollars in public funds being expended, and valuable staff time being diverted, with only limited benefit to the National Seashore's ecosystems. It is clear that

the most environmentally responsible alternative must include complete eradication of both Axis and Fallow deer, as proposed in Alternative E.

The Draft Plan reviews the current state of contraceptive technology and argues convincingly that contraception alone will not remove all the non-native deer from the National Seashore. Although lethal removal is clearly the most effective and economical method for management and removal of non-native deer populations, the Service needs to develop contraceptive methodology for potential application to other federal lands and so includes the use of limited contraception in its Preferred Alternative. That said, the Service's overriding management goal must be the timely removal of both Axis and Fallow deer and eliminating the environmental impacts these non-native species are having on the Seashore's ecosystems.

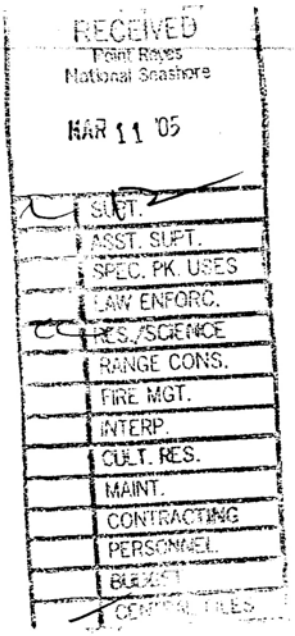
While there are those who oppose the use of lethal means for removing Axis and Fallow deer, these concerns should not override critical management decisions made by park professionals charged with overseeing the protection and restoration of federal lands. The Service's mandate is to protect and restore native wildlife and plant life on its lands. For this reason MCL believes that preserving an introduced invasive species at the expense of the health of an entire ecosystem would be unjustified and a poor use of American taxpayers' money.

Thank you for the opportunity to comment on this important matter and we look forward to reviewing the Final Environmental Impact Statement in the coming weeks.

Sincerely,

Jana Haehl
President

The Marin Humane Society



March 10, 2005

Superintendent Donald Neubacher
Pt. Reyes National Seashore
Pt. Reyes, CA 94956

RE: Non-native deer management

Dear Superintendent Neubacher:

I am writing on behalf of the Marin Humane Society to express our concern about the lethal elements of the proposed Management Plan for the axis and fallow deer at the seashore.

Over the past 50 years the community has hiked the seashore trails and picnicked on its slopes seeing axis, fallow and black-tail deer along with the reintroduced Tule elk. Although labeled "non-native" and scheduled for eradication in the Plan, after a half-century the axis and fallow species are now an integral part of the landscape.

Adding the label "invasive" to "non-native", the deer are blamed for a range of sins that sidesteps our collective responsibility for releasing the animals in West Marin. If there is an environmental imperative to address the number of deer, then there is also a moral imperative to do so humanely. In doing so we must keep in mind that individual animals as well as species have moral standing in our worldview and actions.

The Humane Society sees the deer as easy targets in 2005 for a Park that is totally out of sync from the landscape of 1905. What meaning does non-native have anymore? Are there plans to eliminate the red fox and opossum? What makes these two cervid species dangerous to the continued integrity of the Park?

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(415) 883-4621 • FAX (415) 382-1349 • www.MarinHumaneSociety.org

If a compelling argument can be made for reducing the number of axis and fallow deer, then the Marin Humane Society urges the Park Service to explore and implement a 100% nonlethal approach. In such an approach you would find the Humane Society and its 10,000 constituents both partners and allies.

I would appreciate the opportunity to speak with you before the April 8 comment deadline. I can be reached directly at (415) 506-6200 or dallevato@marinhumanesociety.org.

Sincerely,

Diane Allevato
Executive Director

cc: Senator Barbara Boxer
Senator Dianne Feinstein
Representative Lynn Woolsey

NPCA NNDMP Final Comments

Point Reyes National Seashore
Non-Native Deer Management Plan Comments

Submitted by
Neal Desai
on behalf of
National Parks Conservation Association
April 8, 2005

The National Parks Conservation Association (NPCA) submits the following comments and suggestions to help guide the process of creating the Non-Native Deer Management Plan (NNDMP) for Point Reyes National Seashore (PORE). NPCA is a non-profit organization with a primary mission to protect and enhance America's National Parks for present and future generations. As the nation's largest membership organization dedicated solely to national parks, we represent a broad array of existing and potential park users. We have more than 300,000 members nationwide, with more than 40,000 members in the state of California.

NPCA would first like to recognize the excellent work of the National Park Service (NPS) in the overall management of this unit to date. Having been established in 1962 to "preserve, for the purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped," we feel that the management of PORE has generally been successful in serving the various stakeholders and user groups the park's enabling legislation intended it for.

NPCA supports PORE's proactive approach in developing the NNDMP, as past management of the non-native deer (NND) did not involve the breadth and depth of analysis, both scientific and park management, which this plan displays. Because of the NND's expansive nature, the known and anticipated disruption they cause to PORE's native ecosystem, and the NPS mandate to protect and restore native ecosystems (*Management Policies*, Executive Order 13112), NPCA believes that the park must adopt a plan that can address the above issues thru a plan based on its human and financial resources.

Therefore, Alternative A/The No-Action Alternative would be ruled out since it does not contribute to the NPS mandate to remove non-native species. NPCA acknowledges that even though some analysis and modeling of the NND is based on deer data outside PORE, this is not ground to discredit the findings as it applies to PORE and the pursuit of an action alternative. It is only a matter of time, if not acted upon, that the park will be forced to take a reactive stance in managing the NND. PORE must have a roadmap to deal with these ever-expanding species.

Currently, both species of NND are:

- **Disruptive to natural ecosystem, which will increase the risk and probability of a future crisis situation, perhaps irreparable.** These NND eat

NPCA NNDMP Final Comments

more than 1 ton of forage a day (this will mean competition for food with native tule elk and black-tailed deer, especially during the dry season). Unacceptable high levels of congregation in riparian and woodland habitat by NND have the potential to negatively affect endangered species, such as red-legged frog and Coho Salmon. We ask that PORE consider visitor safety in adopting an alternative, as fallow deer are known to be very aggressive to other wildlife and potentially to, as their population and geographic range grows, park visitors.

- **Financial burden for NPS, ranchers, and community at large.** Some ranchers spend up to $4K repairing damage caused by deer. When the geographic range of the NND expands, this financial burden will also carry. Relating to PORE, as long as the NND exist, there are infinite staff time and resource costs for monitoring disease/spread of disease in NND.

NPCA supports the need to take action in Alternatives B and C, however both fall short in adequately addressing control (i.e. deer that will eventually leave the park as time increases), known negative impact of NND to native habitats, and perhaps most important in overall park management: minimizing long-term diversion of staff time and Seashore resources from other resource management projects. By taking into account other projects in resource management, and also other areas in the PORE's operations that fulfill the mission of the park (e.g. interpretation), we recommend PORE adopt an eradication alternative, as too much human and financial resources are consumed by both Alternatives B and C over the long run, given each has no time limit. Because axis deer breed year-round and as early as the age of 4 months, plans to successfully contracept females of this species appear less feasible.

Considering eradication is the end goal over the same time period, NPCA supports Alternative D. Alternative D, compared to the preferred Alternative E, is less painful/and one can argue less cruel to the deer, more manageable than contraception procedure (i.e. capture/immobilize, inject contraceptive, tag deer for monitoring), safer for PORE staff (risk of injury from struggling deer and aerial net gunning), and less expensive (D costs $300/animal, and E costs $3,000/animal).

NPCA would recommend that PORE devise a detailed plan for Alternative D, outlining the logistics for the process, from sharpshooter training to removal of deer, and alternatives within, taking into account any roadblocks, such as the monitoring of the deer.

Thank you in advance for this opportunity to contribute to the planning process at PORE. NPCA looks forward to working further with NPS and other stakeholders to develop a NNDMP that will guide non-native species management for years to come and protect the park for future generations.

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COLLEGE OF NATURAL RESOURCES
DEPARTMENT OF ENVIRONMENTAL SCIENCE, POLICY, AND MANAGEMENT
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BERKELEY, CA 94720-3110

28 March 2005

Mr. Don Neubacher, Superintendent
Attention: Non-Native Deer Plan
Point Reyes National Seashore
Point Reyes Station CA 94956

Re: Exotic Deer Control Plan

Dear Mr. Neubacher:

I want to express my support for the Exotic Deer Management Plan currently open for comment, and endorse the preferred alternative.

I had been a professor of wildlife biology and management for 40 year until my retirement last fall, but still remain active in research and management issues. I spent most of my career studying the ecology and behavior of large mammals and, in fact, did much of the basic work supporting the models used in this report. I have had a long involvement with wildlife policies at Point Reyes National Seashore, having visited there before its establishment, and served on a number of formal and informal reviews of issues. Therefore, I feel qualified to make professional judgments concerning the exotic deer report.

First of all, technical matters. I think the report is strongly supported by the science available now, and it is more than adequate to the purpose. Yes, some things will prove to be a bit in error, but the essential facts are well founded on objectively pursued research, both at Point Reyes and elsewhere. It further should be noted that because of its inherent natural values, Point Reyes National Seashore has been blessed with an inordinate amount of large mammal research. On-site documentation is available, and has been for a long time.

The two modelers (Barrett and Hobbs) who submitted analysis of the impacts are well known to me (literally since they were students), and both are excellent at this work. The results are as close to accurate as can be had, firstly because the basic principles underlying the models have withstood the test of time, and secondly because of the rich body of information specifically from Point Reyes peninsula. Although no rational scientist would claim that the results are exact, the predictions are almost certainly within 5-10% of the correct ones, and this degree of accuracy is far more than need to support

the management actions being proposed. In general, the report is modest in its claims, and gives a conservative evaluation, given the abundance of data and length of time things have been studied at Point Reyes.

Second, I will address the emotional issues. I am well aware that animal protection groups will find the use of lethal means objectionable on moral grounds, and this is a position with which I sympathize. I too regret that such an approach is necessary, especially in a National Seashore, and wish it was not. Still, these objections must be balanced against countervailing moral issues, and must take into account the practical consequences of what needs to be done.

Thus, the need for lethal control of exotic deer at Point Reyes must be weighed against the imperative that we stop and, to the extent possible, reverse the effects of wholesale transporting of exotic species about the globe by humans. The devastating ecological effects of so-called "invasive species", which label masks that most of them are not "invasive" having been put there against their will by humans, is one of the moral outrages of our time. These deer simply should not have been put at Point Reyes in the first place. What about our moral obligation to native species? Just because it takes more diligence to see the losses due to exotics do we claim ignorance, and give greater weight to exotics and less to native species? That the exotic deer were introduced through ignorance in the past only heightens the moral obligation for us to avoid further ignorance now. Yes, it is easy to sympathize with the exotic deer. But we should not use that as a façade to hide our even greater moral obligation to native species.

In many cases it is impossible to correct the consequences of unwise introductions. That it is possible to do so in the case of exotic deer on Point Reyes, however, places a heavy moral burden on us to act responsibly to protect native species from the impacts of exotics. And, we must do it sooner rather than later. Fallow deer are now spreading eastward rapidly, as I have seen myself, and we will soon loose the containment that, fortunately, we have had up to this time. I do not want to repeat my regret that the eastern fox squirrel, once found solely on the Berkeley campus (and fed by well-meaning people), could have been eradicated easily in the 1960s. Now, it has not spread throughout the East Bay and is moving into the Central Valley, displacing the native gray squirrel along the way. It is too late to eradicate them now. I sincerely hope we do not make the same mistake with fallow deer.

This brings me to means. It would be wonderful if reproductive intervention was magic, but it is not. The methods available to date are far from perfect, which is why so few of them are approved for use. In situations where animals can be captured and handled easily, they work fairly well, but not without trauma. These are wild animals, and all of their stress responses are triggered by capture, predation-like events. They simply can not know that we are subduing them with such noble and caring intentions, and hope to release them without harm. Still, the big problem is that we do not have the means to deliver the contraceptives or surgical alterations to a sufficient proportion of the population to achieve the goal—either control or eradication in most cases in the wild.

I think the preferred alternative in the plan presents a balanced application of contraceptive and lethal methods to the exotic deer problem. In essence, contraception is used to the extent it can be applied successfully, and that, in turn, reduces the need to use lethal means. It is impossible to know in advance the optimum mix of the two approached to minimize the total mortality. This depends on how contraception works out. To the extent contraceptive fails to meet the objective, however, lethal means will have to be employed.

Sincerely,

Dale R. McCullough

Dale R. McCullough
Emeritus Professor of Wildlife Biology

SIERRA CLUB
FOUNDED 1892

SIERRA CLUB MARIN GROUP
Box 3058 San Rafael CA 94912sanfranciscobay.sierraclub.org/marin

March 28, 2005

Superintendent, Point Reyes National Seashore:

The Sierra Club, on behalf of its 7,000 Marin County members and its 750,000 members nationally, supports the 12/04 Point Reyes National Seashore (PRNS) Non-Native Deer Management Plan draft Environmental Impact Statement (dEIS) Preferred Alternative E.

The impact of invasive species on biodiversity and native and threatened species is a core issue for the Sierra Club. The National Invasive Species Council, which helps coordinate federal activities, notes that total costs of invasive species in the United States are more than $100 billion each year and that invasive species impact nearly half of the threatened or endangered species. PRNS is rich in biological diversity with over 45% of North American avian species, nearly 18% of California's plant species, and 23 threatened and endangered species. If PRNS were to become a monoculture of invasive plants and animals, that would greatly diminish a biodiverse haven for wild creatures and humans while relegating the remnants of our native species to museums.

Use of ungulate habitat at PRNS is a zero-sum game with winners and losers. Any decision that PRNS makes, including no decision, will result in the death of animals; the only question is which animals. The environmental impacts from the No Action Alternative of letting invasive deer expand at PRNS would reduce habitats for and thus increase deaths of native black-tailed deer, native tule elk, endangered coho and steelhead, and riparian songbirds. These impacts on native, threatened and endangered species far outweigh the impacts from removal of a small portion of the large worldwide population of these deer.

The Sierra Club does not believe that an invasive deer species in PRNS increases biodiversity because of significant later consequences. The first introductions of yellow star thistle, west nile virus, scotch broom, and sudden oak death could have been said to momentarily increase biodiversity in California, but the subsequent impacts from these invasive species have caused huge economic and environmental damage. Goats introduced on San Clemente Island are responsible for the extinction of 8 endemic plant species. Rats introduced to Anacapa Island threatened several native species -- including the Xantus' murrelet.

The Sierra Club does not support the idea that the need to manage the invasive deer implies that all exotic species are inherently bad. In their native habitats these same species are usually well integrated into the local biological diversity.

However, these otherwise harmless species, when removed by human action from their native habitat, sometimes find themselves with no natural limits to their populations and invade, displace and destroy native flora and fauna. It is when the behavior of these displaced species becomes aggressive and threatens their neighbors that the National Park is mandated to take action. A failure to take action on invasive deer threatens not only the native species being displaced but also the entire program to control invasives of all kinds.

National Parks have wide-open spaces and cannot feasibly keep an invasive species separate from the local species it is displacing. Zoos, of course, maintain biodiversity by keeping predator/invasive species in separate cages from the prey/refugee species, but National Parks must reduce or eliminate invasive populations in order to maintain diversity. These invasive deer cannot legally be removed or feasibly contained, and managing these deer at PRNS is not simple. If some females are contracepted and the population reduced below carrying capacity, the remaining females respond by greatly increasing their fertility; if some males are sterilized, the females respond by greatly increasing their estrous cycles for remaining males. Unless 100% of the deer are treated, populations will increase. But treating 100% of deer running wild over 70,000 acres is likely impossible, so some level of lethal removal will likely be required. Although these invasive deer were introduced to this area for the purpose of hunting, the Sierra Club agrees with the dEIS that hunting in PRNS would be inappropriate, although if State Fish and Game removed the limit on legal hunting outside the park, then that action could help control spread of the invasive deer beyond park boundaries.

The Sierra Club understands that lethal removal is controversial. Opposing lethal removal is an agreeable position to take, but the Sierra Club acknowledges that maintaining a diverse ecosystem is a complex task in which all actions, including no-action, have to have both risks and benefits assessed. We believe that the dEIS does a reasonable job in this assessment by using local studies combined with studies elsewhere to draw logical conclusions about the impacts from the invasive deer on PRNS habitat, flora and fauna. We agree that the risks from not managing the deer far outweigh the risks of management. However disagreeable it is to kill any animal, protecting a fertile and complex genetic biodiversity is fundamental to National Parks. Allowing the invasive deer to expand does not account for the pain and suffering of native species that would be displaced and thus indirectly killed.

The Sierra Club supports the prioritization of contraception over lethal removal within the framework of a continued decline in population so that if new methods are discovered for feasible contraception, then the percentage of deer lethally removed would be lowered. However, PRNS should not divert dollars that could go to native and endangered species protection to attempt at any and all cost to avoid any lethal removal of invasive deer. The Sierra Club supports PRNS's proposal to explore all feasible contraception options, but we also encourage PRNS to set up a fund for contributions from individuals that could provide additional funds for research on contraception. The effectiveness of

experimental contraceptive techniques must be measured against the standard of a constantly declining population. Invasive deer cannot be allowed to continue to expand in the hope that future contraceptive action may prove effective. Furthermore, for any wild free-ranging animal, trauma, injury and mortality result even from use of contraceptives. The Preferred Alternative's complete removal of invasive deer results in the lowest number of total deaths compared to Alternatives that only reduce populations, because allowing even a few invasive deer to remain and breed would require continued removal actions in the future and greatly increases the number of animals needed to be contracepted or lethally removed.

Therefore, to the extent that contraceptives prove unable to reduce populations, the Sierra Club understands that specially trained park sharpshooters with a mandate for only taking sure, euthanizing shots must be the backstop insuring the success of the invasive deer removal. We ask that special precautions be taken if lethal removal is undertaken to ensure minimum impact to native species, including use of non-lead bullets, and that both the lethal removal program and its participants be monitored to insure effectiveness and humaneness. The Sierra Club supports donation of deer meat, when feasible, to local charity dining facilities.

The Sierra Club does not support the idea that since there are already considerable numbers of non-native species (cattle) living in PRNS, then no action can be taken on any other non-native species (invasive deer) until the last cattle are removed. PRNS was established in part to allow the continuation of "cattle ranching and dairying" (not wild deer raising) for those willing to continue those operations after the ranches were purchased for incorporation into PRNS. The Sierra Club is well aware that cattle impact the environment, but those impacts are declining as PRNS works with cooperative ranchers towards more "sustainable" agriculture. Furthermore, management difficulties for domestic cattle are minimal compared to the great difficulty of managing wild, invasive deer.

The Sierra Club understands that there are no easy solutions to management of non-native deer. A March 20 editorial in the New York Times captured the essence of the dilemma: "*Unfortunately, deer contradict our innate assumption that only ugly creatures can be vermin…But wise conservation means looking at the environment as a whole - from the smallest wildflower on forest floor to the biggest brown-eyed herbivore. The whole system - not just the prettiest mammals - needs protection.*" The Sierra Club supports protecting the whole system and therefore supports the 12/04 PRNS Non-Native Deer Management Plan draft Environmental Impact Statement (dEIS) Preferred Alternative E.

Sincerely,

Gordon Bennett, Marin Group Chair

NPS Response to Comments

In reviewing the 1,900 pieces of correspondence received during the comment period, NPS grouped similar substantive comments from one or more commenters and summarized them under subject topics (e.g. Alternative A, Wildlife and Wildlife Habitat etc.), each with a unique Topic Code number (e.g. AL 1000, WH 4000). These Topics were grouped together to reflect related issues where appropriate and to avoid repetition in the responses.

AL 1100 – Alternative A (1)

What is the need for the management plan if none of the adverse impacts of Alternative A (No Action, continuation of the current management) would result in the impairment of park resources?

Response In common parlance, the word "impair" means "to damage or make worse" and as such, the term "impairment" in an EIS is often thought by the public to mean the same thing as "adverse impact". However, the term "impairment" has been given a specific legal meaning through the interpretation of the 1916 NPS Organic Act, which established the National Park Service. The Organic Act established the NPS to preserve and protect designated resources of the country and provide for their enjoyment by the public in so far as the resources are "unimpaired for the enjoyment of future generations" (16 USC 1). Impacts of a proposed action could be adverse, long-term and severe and still not constitute "impairment." Impairment, when used by the NPS, is narrowly defined as an impact that, "would harm the integrity of park resources or values, including the opportunities that otherwise would be present for the enjoyment of those resources or values" (NPS 2001). Guidance in the NPS Management Policies (2000) defines an impact as constituting impairment if it affected a resource or value that was:

- Necessary to fulfill specific purposes identified in the establishing legislation for a park;
- Key to the natural or cultural integrity of a park or to opportunities for enjoyment of the park; or
- Identified as a goal in the park's general management plan or other relevant NPS planning documents.

The establishing legislation for Point Reyes (Public Law 87-657, 76 Stat. 538, 16 USC) identified "…public recreation, benefit, and inspiration," and ensuring that "a portion of the diminishing Seashore of the United States that remains undeveloped" as the specific purposes of the Seashore. Public Law 94-544 and 94-567 amended the Seashore's enabling legislation by inserting the words: "…without impairment of its natural values, in a manner which provides for such recreational, educational, historic preservation, interpretation, and scientific research opportunities as are consistent with, based upon, and supportive of the maximum protection, restoration, and preservation of the natural environment within the area." Although the continued existence of exotic deer would have adverse and sometimes major adverse effects on park resources and values as described in the EIS, under current conditions, the impacts of their continued existence would not prevent fulfillment of these stated purposes and so would not constitute impairment as defined by NPS. However, should non-native deer populations and range expand, as with Alternative A, NPS believes impairment to wildlife would likely occur.

Data on current and past population growth of fallow and axis deer at PRNS indicate that the No Action Alternative would result in an increase in non-native deer numbers within the Seashore and throughout Marin County. Adverse impacts of No Action to native deer, particularly native black-tailed deer, would be major. Black-tailed deer are considered a "keystone " species in the native California coastal ecosystem because increases and decreases in their population numbers have repercussions throughout the ecosystem. Alternative A therefore affects a resource that is key to the natural integrity of the park or to

opportunities for enjoyment of a park and as such, impairment would likely occur. For a detailed description of the impacts of non-native deer to Seashore resources, see FEIS Chapter 4, Environmental Consequences, and in particular, the discussion of the impacts of the No Action Alternative.

In addition and separate from the requirement that park resources and values be left unimpaired for future generations, the Organic Act requires the conservation of park resources and values at all times, even when there is no risk that any park resources or values may be impaired. NPS managers are called upon to always seek ways to avoid, or to minimize to the greatest degree practicable, adverse impacts on park resources and values (NPS Management Policies Section 1.4.4). For this reason, even though impacts of the No Action alternative would not rise to the standard of "impairment" for most resources, the Seashore is obliged to evaluate options that would help in rectifying damage caused by fallow and axis deer and select what it believes to be the best among them for implementation. Only by doing so can it minimize or avoid possible impacts of non-native deer on Point Reyes National Seashore resources and values and best meet the NPS conservation mandate.

AL 1101 – Alternative A (2)

NPS must demonstrate that the proposed action (Preferred Alternative) will measurably contribute to the restoration of native wildlife and natural ecosystems within PRNS.

Response The discussion of the beneficial impacts of Alternatives D and E are in two principal areas of the FEIS: Chapter 2, discussion of the *Environmentally Preferred Alternative* and *Park's Preferred Alternative* and Chapter 4, *Environmental Consequences of Alternative E*. The discussion in Chapter 2 Alternative E explains how the NPS concluded that Alternative E best achieves the objectives of the management plan. In particular, objective # 1, "to correct past and ongoing disturbances to Seashore ecosystems from introduced non-native ungulates and thereby to contribute substantially to the restoration of naturally functioning native ecosystems" is clearly accomplished by removal of all fallow and axis deer within NPS boundaries, as called for in the Preferred Alternative. Native ecosystems are, by their very nature, comprised of interdependent native species. Two cornerstones of native ecosystem restoration are reintroduction of extirpated native species and removal of non-natives.

Al 1110 – Alternative A (3)

Commenters believe that the park must adopt a plan that can address the impacts of non-native deer to staffing and financial resources.

Response One of the objectives of the plan is to minimize long-term impacts, in terms of reduced staff time and resources, to resource protection programs at the Seashore, incurred by continued monitoring and management of non-native ungulates. As the EIS indicates (see Park Operations in the Impacts chapters and figure 17 for more information), continuing with current management of non-native deer is likely to cost about $2.1 million through 2021 and then further maintenance and management costs would be up to $280,000 per year. Although implementing the Preferred Alternative would cost more initially, about $4.5 million through 2021, it would eliminate the costs for non-native deer management after this date.

AL 1110 – Alternative A (3)

Commenters state the adverse impacts of the No Action alternative are understated and are major both inside and outside the Seashore.

Response The impact analysis for Alternative A (Chapter 4) indicated that major impacts to water resources, soil, vegetation, wildlife, species of special concern and the regional economy outside the park could occur. The degree of impact to these same resources inside the park under the No Action alternative would be moderate for soil, water, the regional economy and species of special concern, and moderate to major (depending on species and location) for vegetation and wildlife. Moderate impacts to park operations would also occur. The definitions of impact thresholds for each of these resources is provided in the Methodology section of the EIS. Thresholds and impact indicators were developed through consultation with resource experts, literature searches in some cases, and the best professional judgment of NPS managers. Thresholds are defined to delineate differences not only in the intensity of an impact, but include considerations of context, duration and timing. The definitions for moderate and major differ in geographic context and duration for many of the affected resources. Examples for a few resources are provided below to illustrate this difference.

Impacts to Water Resources

Moderate: would be apparent locally and would have the potential to become larger or regional.
Major: would be substantial, highly noticeable, and regional (i.e., would occur over a large area, such as the Tomales Bay watershed, or Point Reyes National Seashore).

Impacts to Wildlife

Moderate: would be sufficient to cause a change in the resource or population (e.g., abundance, distribution, quantity, or quality); however, the impact would remain localized in the Seashore. The change would be measurable, but negative effects could be reversed with active management, and the resource or population could recover within the Seashore.
Major: would be substantial, highly noticeable, measurable, and potentially irreversible (permanent). The resource or population would be unlikely to recover within the Seashore with or without active management.

Impacts to the Regional Economy

Moderate: detectable in a moderate to large number of local businesses or could have the potential to expand into an increasing influence on the economic environment.
Major: a substantial, highly noticeable influence on many local businesses, and could be expected to alter those environments permanently.

AL 1200 – Alternative B (1)

Commenters support control of non-native deer numbers in perpetuity rather than total elimination because they want to have some non-native deer available for viewing.

Response Alternatives B and C, which both result in maintaining non-native deer through perpetual control of their numbers, were not chosen as the Preferred Alternative for a number of reasons. First and foremost, the adverse impacts of these two alternatives on park resources (e.g. vegetation, wildlife, soils, water resources, special status species, human health and safety, park operations) and the regional economy are more severe and of longer duration than in the Preferred Alternative (Alt. E), which calls for removal of all non-native deer by 2021. The impacts of the non-native deer populations on riparian and woodland ecosystems, to other wildlife and to ranchers would continue forever if non-native deer remain, albeit at reduced levels if the number of deer were reduced. The Preferred Alternative (and Alternative D,

which would completely remove all non-native deer through lethal means) would best accomplish the objectives of the plan and comply with NPS laws, regulations and policies (see Table 1 in the EIS).

Another consideration in choosing the Preferred Alternative was the cumulative total number of deer that would need to be killed over the lifetime of the plan. If a population of axis or fallow deer were maintained in the park (as in Alternative B or C), it would require perpetual management through lethal removals because control of non-native deer through contraception alone is infeasible. Over many years, the total number of deer removed would be very high. This is illustrated in Table 1 and Figure 1 in the final EIS.

AL 1210 – Alternative B (2)

Commenters oppose maintenance of any non-native deer populations because it would result in excessive ongoing costs and in the removal of thousands of animals, in perpetuity.

Response Comment noted. Further information may be found in FEIS Chapter 4, Environmental Consequences, which discusses the environmental impacts of the two alternatives (B and C) that would maintain non-native deer in the Seashore in perpetuity. Also see the response to AL 1200.

AL 1310 – Alternative C (2)

Commenters oppose Alternatives B and C for a variety of reasons, mostly because contraception appears infeasible and the alternative requires a high expenditure of park operations resources.

Response Your comment is noted and reflects, to a large extent, the assessment of NPS. Please see FEIS Chapter 4, *Environmental Consequences*, for the impacts to park operations from Alternatives B and C. Also, see Chapter 2, Table 3 for a summary of the impacts of each alternative.

AL 1400 – Alternative D (1)

Commenters support Alternative D for a variety of reasons, mostly because it will reduce impacts to Seashore ecosystems, ranchers and park operations quickly.

WH 1100 – Wildlife and Wildlife Habitat: Ethical Issues

Commenters state that rapid removal of all non-native deer is the most humane method in the long-term.

Response Both Alternative D (Removal of All Non-Native Deer by Agency Personnel) and the Preferred Alternative E (Removal of All Non-Native Deer by a Combination of Agency Removal and Fertility Control), are the Environmentally Preferable alternatives, because they cause the least damage to the biological and physical environment. (See Chapter 2, Environmentally Preferable Alternative.) Both alternative D and E also contribute to restoration of natural ecological processes and best protect, preserve, and enhance historic, cultural, and natural resources.

Although both Alternatives D and E fully accomplish all four of the Seashore's stated objectives for non-native deer management, Alternative E is the park's Preferred Alternative. Although Alternative E does have increased safety risks to NPS staff responsible for capturing and treating animals with a contraceptive, and is more expensive, it also may reduce the total number of deer requiring lethal removal. Lower levels of culling would mitigate some, though not all, of the concerns of members of the public who oppose using lethal methods to control the non-native deer populations.

Alternative E will also expand current knowledge about long-term reproductive intervention in wild ungulates. The Preferred Alternative presents an opportunity for long-term study of the use of potential sterilants in controlling overabundant or unwanted deer under free-ranging conditions. Issues of wildlife overabundance often arise in areas where lethal removal is difficult, such as areas with firearms restrictions or public safety concerns. Information gained through Alternative E could benefit other national park units, other land-management agencies and zoological parks nationwide.

We believe these benefits outweigh the additional time Alternative E would take to eradicate non-native deer compared to Alternative D, and the increased cost to NPS and risks to staff.

AL 1410 – Alternative D (2)

The process of culling will increase the rate at which non-native deer disperse beyond the park boundaries and will not meet the plan objectives.

Response See Chapter 4, Impacts on Wildlife of Alternatives B-E. Any deer control program involving lethal removal of animals with firearms has the potential to scatter deer herds and push deer out of the Seashore into adjacent lands. Provisions in those action alternatives that specify removing animals from the edges of the Seashore before culling animals deeper within the park would mitigate such scattering. Experts with experience in wildlife removal programs will be consulted prior to initiation of the culling and a comprehensive implementation plan will be developed. A monitoring plan incorporating the principles of adaptive management has been included in the FEIS as an appendix. This plan includes measurement of population size and range with projections of herd movements. The goals will be to reduce the populations as quickly as possible to minimize impacts on native species, minimize the risk that axis and fallow deer would expand their ranges outside the park, minimize the total number of deer removed, and maximize the overall culling efficiency.

AL 1410 – Alternative D (2)

Commenters are concerned about residues of any contraceptives used and consequent adverse impacts to native predators.

Response For a detailed discussion of current wildlife contraceptive technology, see Chapter 2, Alternatives C and E. In the past, some fertility control agents, namely steroid hormones, have raised concerns about residues in meat that might be consumed by humans or other wildlife. For this reason, steroid contraceptives are not being considered for use at Point Reyes National Seashore.

The most promising long-lasting drugs currently being considered for use in PRNS non-native deer are Spayvac® and GonaCon®. As of the writing of this document, Spayvac® is no longer available for use in wildlife. Both of the products are protein vaccines injected into female deer in order to induce an immune response to the deer's own reproductive proteins. Should a treated deer become preyed upon or scavenged by other animals, any contraceptive remaining in the deer's tissues would be digested by the predator's digestive system. Like other proteins, these vaccines are denatured (broken down) by digestive enzymes and are not expected to cause any effect to the predator or scavenger. Therefore, the adverse impacts to other wildlife prey or scavenger species from these two contraceptive drugs are considered insignificant. However, as described in Chapter 2, before granting registration or an experimental use permit, the Environmental Protection Agency (EPA) would require safety data from the applicant.

AL 1410 – Alternative D (2)

The commenter states that the DEIS failed to examine the impact of culling on disease transmission as non-native deer will leave the park as a result of culling and will be weaker from the stress involved with culling.

Response The commenter states that stress resulting from herd culling may increase the incidence of paratuberculosis in the non-native herd. Stress, as defined in veterinary texts, is the physiological (rather than psychological) condition arising when those mechanisms concerned with adapting an animal's body to its environment are taxed beyond their normal capacities. Psychological factors, although they are acknowledged as playing some part in the process, are considered relatively minor. The physiological responses typical of stress are hormonal, with release of glucocorticoid steroid hormones, and behavioral actions (the "fight or flight" response). Environmental factors that cause stress include poor nutrition, severe climate, physical effort, pain and crowding.

Culling of deer results in increased pain for animals that are shot and in increased physical effort for bystander animals. As described in the EIS (Chapter 2, descriptions of Alternatives B-E), efforts would be made to deliver immediately lethal shots to target animals to reduce the duration of painful stimulus. It should be noted that increased physical effort and pain are also likely results of almost any wildlife management action including relocation, capture (for euthanasia, contraception or relocation), and remote injection (darting). Such stressors clearly could cause increased susceptibility to some diseases.

However, paratuberculosis is an infectious disease transmitted primarily through the fecal-oral route. Important factors for an increased prevalence of paratuberculosis are crowding and increased fecal contamination of forage and water. The prevalence of the infection and the incidence of clinical disease may climb when a population approaches carrying capacity, as in Alternative A (No Action). Animals, including those most susceptible to the infection, i.e. the calves, would be exposed to greater numbers of the organisms more frequently. At these high densities, affected herds would be stressed by reduced forage nutritional quality and reduced ability to fight disease through a weakened immune system. This immunosuppression could result in increased transmission of infections, heavier pathogen loads and progression to clinical illness (Manning et al. 2003). Animals in the clinical phase of Johne's disease shed the organism more often and in greater numbers, increasing the potential for contamination from this hardy and long-lived organism, a factor relevant to the health not only of non-native deer, but of numerous other susceptible native species.

Both crowding and fecal contamination of the environment are alleviated by lethal removals (Alternatives B-E). In addition, culling activities would likely "split" large herds into smaller groups, further reducing deer densities and the potential for fecal contamination. Reducing the overall number of infected animals would have a far greater positive effect on the current and future disease status in the non-native deer population than would shielding them from the stress of culling.

Commenters note that non-native deer are more likely to leave the Seashore as a result of culling activities. Any deer control program involving lethal removal of animals with firearms has the potential to scatter deer herds and push deer out of the Seashore into adjacent lands (see Chapter 4, Alternative E, Impacts to Wildlife). Provisions in all alternatives that include lethal removals specify removing animals from the edges of the Seashore before culling animals deeper within the park to minimize such scattering.

AL 1500 – Alternative E (1)

Commenters state preference for Preferred Alternative and removal of non-native deer from the park.

Response Comment noted.

AL 1510 – Alternative E (2)

Commenters state that the park's Preferred Alternative will fail because the non-native deer population is already on private lands and is beyond NPS control.

Response NPS believes that the Preferred Alternative (E), which includes a combination of lethal removal and non-lethal fertility control, will succeed in eradicating non-native deer from the Seashore. This assessment is based on consultation with experts in the field of wildlife biology and contraception, population models developed by some of these experts, and the past history of non-native deer management in the Seashore. NPS recognizes that the presence of non-native deer on the Vedanta property complicates management because the Vedanta Society has expressed that lethal removal on their lands is unlikely. However, the Society has also expressed support for the use of fertility control on these populations. Records and data from the Seashore's non-native deer culling program from 1976 to 1994 indicate that a focused lethal removal program, when adequately funded and staffed, would be successful in removing large numbers of axis and fallow deer.

AL 2000 – Alternatives: Alternatives Eliminated

Commenters state that the discussion and evaluation of the current state of available contraceptive technology is inadequate. The Seashore should rely on experts with successful immunocontraception projects to assess the feasibility of non-native deer control through contraception alone.

Response Please see Chapter 2, *Alternatives and Actions Considered But Rejected*, and the Response to AL 4300 for a discussion of why NPS considers eradication of non-native deer with fertility control alone to be infeasible. In coming to this conclusion, NPS consulted with a large number of leading experts in the field of wildlife contraception, from universities, government agencies and non-profit institutions. The experts consulted were unanimous in concluding that, because of the size of the non-native deer population in the Seashore and its relative inaccessibility to capture and treatment, it would be infeasible to rely on contraception alone for control or elimination.

The list of experts consulted includes scientists who are currently conducting fertility control research with both captive and free-ranging deer. Seashore biologists themselves have experience with using immunocontraception in free-ranging tule elk from 1996 to 2004. The population models developed by Barrett and Hobbs incorporate peer-reviewed and published modeling techniques to reach the conclusions which informed the document. In the opinion of NPS biologists as well as the experts consulted, the contraceptive literature published since the release of the Draft EIS, including some references listed by commenters, do not alter the choice of Alternative E as the Preferred Alternative. The discussion of the current state of wildlife contraceptive technology has been updated in the final EIS to reflect the most recent developments (see Chapter 2, *Alternative E* and Chapter 2, *Alternatives and Actions Considered But Rejected*).

AL 2000 – Alternatives: Alternatives Eliminated

The EIS rejects contraception- only alternatives because of unverified, theoretical computer models and selective citing of the scientific literature. The document does not include full consideration of Spayvac®.

Response The document includes a discussion of Spayvac®, a long-duration formulation of porcine Zona Pellucida, in Chapter 2, *Alternatives C and E*. All available information on Spayvac® was

reviewed during the preparation of the plan and the manufacturing company was consulted directly. The park's Preferred Alternative calls for using the latest contraceptive technologies to safely prevent reproduction for as long as possible with minimal treatments per animal. Spayvac® was one of the contraceptives considered for use. Unfortunately, since the release of the Draft EIS, Spayvac® has become unavailable for use in wildlife research, according to company representatives. Therefore other experimental products, such as GonaCon®, would be considered for use.

The Final EIS contains updated information on wildlife contraceptive technologies, collected since release of the draft (see Chapter 2, Alternatives C and E). As mentioned in the responses above, the preparation of the document involved consultation with many leading experts in the field of wildlife contraception, from universities, government agencies and non-profit institutions. These experts informed NPS of any promising new contraceptive technologies.

AL 2000 – Alternatives: Alternatives Eliminated

Commenters support the NPS Preferred Alternative since using contraception alone would be futile and inexact.

Response Your comment has been noted. The reasons for dismissing alternatives that did not include lethal removal are listed in Chapter 2, *Alternatives and Actions Considered But Rejected*.

AL 2000 - Alternatives: Alternatives Eliminated

Commenters state that NPS should not reject the contraception-only alternatives because of cost or difficulty.

AL 4000 – Alternatives: New Alternatives or Elements

AL 2000 – Alternatives: Alternatives Eliminated

There is a lack of evidence in the EIS that non-native deer are degrading ecological processes in the park.

AL 1101 – Alternative A (2)

NPS must first demonstrate that fallow and axis deer are having the detrimental effects alleged in the document.

Response See the FEIS Chapter 4, *Environmental Consequences of the No Action Alternative* (A) for a lengthy description of the adverse impacts of non-native deer to water resources, soils, vegetation, wildlife and special status species. These impacts have been documented both in the Seashore and elsewhere. Axis and fallow deer were introduced to the Seashore in the 1940s and are not native components of its ecosystems. The resources and habitats they utilize are consequently rendered unavailable to native species.

Because they maintain populations of non-native deer in the Seashore, Alternatives A, B and C would continue ongoing impacts to park natural and physical resources. The presence of non-native axis and fallow deer is disruptive to many elements of the natural ecosystem at PRNS. Some of the more serious effects these non-native deer have at the Seashore include competition with native tule elk and black-tailed deer (particularly in high deer density or low forage conditions), the potential for transmitting disease to these native deer, and heavy use of and resulting impacts to riparian and woodland habitats and the native wildlife dependent on these habitats. Introduced fallow deer in other parts of the world are

known to cause reduction or local extinctions of small mammals that rely on the same ground-level grasses and forbs. Both axis and fallow deer at PRNS browse shrubs when grasses are not available, and fallow deer in particular alter riparian cover and vegetation through thrashing, trampling, browsing and creating trails. Loss of riparian habitat would affect a number of species at PRNS, including several special status species, such as California red-legged frog, Coho and Chinook salmon and steelhead trout. In contrast, Alternative D or E would remove all non-native deer from NPS lands and eliminate these impacts on natural and physical resources.

Wildlife monitoring in the Seashore is ongoing and the analysis in the FEIS on impacts of non-native deer has been supplemented by new information since the DEIS was published, including the following:

- A US Geological Survey analysis of the impacts of non-native deer on native black-tailed deer (Fellers, 2006),

- A US Geological Survey report on the impacts of "lekking" fallow deer to woodland and riparian vegetation and soils (Fellers and Osbourn, 2006),

- A Humboldt State University report on dietary overlap between fallow deer and native tule elk (Fallon-McKnight, 2006).

Data on the adverse impacts of fallow and axis deer to natural ecosystems, (both at PRNS and elsewhere in the U.S,) and detailed results of the studies cited above are described in FEIS Chapter 3, *History of Research on Non-Native Fallow and Axis Deer at Point Reyes National Seashore and Golden Gate National Recreation Area* and FEIS Chapter 4, particularly under Alternative A, No Action).

AL 2100 – Alternatives: Hunting

To eliminate the threat that non-native deer will spread far outside the park, NPS should work with California Department of Fish and Game in expanding hunting of non-native deer on private lands.

Response The threat of non-native deer moving outside the park is one of several reasons a management plan is needed. As noted in responses to comments above, NPS laws, policies and regulations and the results of research and monitoring indicate removal of these exotic species is needed inside the park. Therefore, simply coordinating a hunting effort with the California Department of Fish and Game for those deer that would move outside the Seashore would not resolve policy and impact issues inside the boundaries of PRNS.

The NPS has no jurisdiction over hunting on private property, state or county lands and would only be able to make recommendations to CDFG on how alteration of hunting regulations might be used to benefit the Seashore's mission or help conserve its resources. The NPS works with CDFG now to try and minimize adverse impacts of non-native deer and would continue to do so in implementing the Non-Native Deer Management Plan as needed.

AL 2100 – Alternatives: Hunting

The NPS should include an alternative with public hunting.

Response See FEIS Chapter 2, Alternatives and Actions Considered but Dismissed, for an explanation of why public hunting, either alone or in combination with another management technique, was rejected. The reasons can be summarized as follows:

- Public hunting within Golden Gate National Recreation Area is not allowed in its establishing legislation. Eighteen thousand of the 90,000 acres administered by Point Reyes National Seashore are GGNRA lands.
- The limited hunting season and restricted hunting zone, along with the large number of non-native deer (at least 1,100) make it extremely unlikely that reduction of the population to a manageable number or eradication of either species could be accomplished solely by public hunting.
- There are serious public safety concerns for a hunt in a national park with such high visitation and in such proximity to 3 towns.
- Public comments received during the initial scoping process and public comment period for the draft EIS indicate that the public does not favor public hunting in the park. Historically, local communities have responded unfavorably to any PRNS wildlife management plans that included public hunting.

AL 4000 – Alternatives: New Alternatives or Elements

The need for the Non-Native Deer Management Plan is not sufficiently supported by the current level of information. More research is needed for a solid scientific basis for the proposed management decisions such as will removal protect native ecosystems, whether and how eradication versus control would benefit native ecosystems, and whether fertility control alone could eventually achieve eradication in the future if it was more effective and easily delivered.

WH 2000 – Wildlife and Wildlife Habitat: Methodology and Assumptions

Further studies are needed such as impact of annual rainfall on reproductive rates for the deer collected from fecal samples, examination of vegetation type and biomass change in areas used by non-native deer, the degree of overlap in diet between non-native deer and native deer.

Response The need for a management plan arises out of a combination of monitoring and research findings and the requirement to follow stated laws, regulations and policies of the National Park Service. These regulatory requirements are summarized in response to comments above, and in the *Purpose and Need* chapter of the EIS.

We disagree that the plan is not sufficiently supported by the current level of information, and note that the monitoring and research findings at PRNS on the ecology, population biology and diseases of non-native deer has been extensive (see Chapter 3, History of Research on Non-Native Fallow and Axis Deer at Point Reyes National Seashore and Golden Gates National Recreation Area). The impacts of non-native deer to livestock and native deer have been analyzed by a number of respected biologists through dietary analyses, range studies and population projections (Brunetti 1974, Elliott 1983, Fellers 1983, Gogan et al. 2001, Hobbs 2003, Fellers and Osbourn 2006). There is little, if any, argument among professional wildlife biologists that expanding populations of axis and fallow deer would have detrimental effects on native black-tailed deer and tule elk.

In terms of further studies, research into non-native deer impacts is already a stated component of all analyzed alternatives. Please refer to Chapter 2, Actions Common to All Alternatives, for a list of activities the NPS considers indispensable for protection of native species and ecosystems and to assess the success of any management action. These activities include the continued monitoring of native and non-native deer numbers, ranges and impacts. Specific examples include monitoring of disease in non-native deer, surveillance for evidence of overgrazing by non-native deer, and assessment of dietary overlap between native and non-native deer.

Finally, we note that research alone would not accomplish any of the objectives of the management plan, which include following the required laws, regulations and policies of the NPS described above and in the *Purpose and Need* chapter of the EIS.

AL 4000 – Alternatives: New Alternatives or Elements

Non-Native Deer Management Plan Alternatives should include the contraception of native deer because there are too many of them.

Response As set forth in FEIS Chapter 1, *Need for Action* and *Purpose* and *Objectives* sections, management of these two non-native deer species is being proposed in order to protect the park's resources and values, which include the native deer. Some commenters suggested broadening this planning effort to include native deer and elk at Point Reyes National Seashore. However, an existing document, the "Point Reyes National Seashore Tule Elk Management Plan and Environmental Assessment," completed in 1998 (National Park Service 1998), already directs management of native tule elk in the Seashore. The park's population of native black-tailed deer is currently considered to be below carrying capacity and not requiring a management plan. Should such a need arise, a black-tailed deer management will be developed and appropriate compliance completed.

AL 4000 – Alternatives: New Alternatives of Elements

The NPS should use implementation of the Non-Native Management Plan as an educational and research opportunity for complex environmental issues.

Response Research would continue under any of the alternatives, including No Action or the Preferred Alternative. Research activities are described in the section *Actions Common to All Alternatives*, and include: monitoring of native and non-native deer numbers, growth rates, survival and fecundity, deer range, dietary overlap and disease. Educational opportunities would continue to be numerous as well. The Seashore has had and expects to continue to have many successful relationships with individuals and organizations that have provided educational programs, fund-raising campaigns, and a host of other activities. In addition, interpretive and educational programs provided by Seashore staff help park visitors understand, appreciate, and enjoy the park and its resources (NPS Management Policies, 2001). The Seashore Interpretive Program has always stressed the importance of preserving native ecosystems, and in recent years, has designed interpretive materials and presentations on the history and future of non-native deer management. This emphasis will certainly continue.

Some commenters suggested that further research into non-native deer impacts and the use of non-lethal deer management techniques were rejected because of their cost. This is not the case. The Seashore's Preferred Alternative includes non-lethal deer management techniques in the form of experimental use of long-lasting contraceptives (see Chapter 2, Alternative E). Contraception as the sole method of controlling or eliminating non-native deer was rejected because it is infeasible and unlikely to succeed (see Chapter 2, Alternatives and Actions Considered but Rejected).

AL 4000 – Alternatives: New Alternatives or Elements

To protect the deer and other wildlife immediately NPS should reduce the speed limit on West Marin roads.

Response The loss of deer through vehicular accidents within and outside NPS boundaries is regrettable but is outside the scope of this management plan. Prevention of deer-vehicle interactions is accomplished

through NPS signage, road maintenance and state highway (Caltrans) programs. NPS has no jurisdiction over wildlife outside of its boundaries.

AL 4000 – Alternatives: New Alternatives or Elements

Commenters state the plan/EIS should consider reintroduction of mountain lions as a management control tool.

Response Mountain lion (*Puma concolor*), as well as other predators such as bobcat (*Felis rufus*) and coyote (*Canis latrans*), are already important to the Seashore ecosystem and are thought to exist at carrying capacity, or maximum sustainable numbers. These species did not evolve with fallow or axis deer and are likely not well adapted to prey effectively upon them. In light of the steady growth of non-native deer populations since the discontinuation of lethal control in 1994, Seashore biologists do not believe that these predators act as efficient controllers of deer numbers.

Historically, two other potential deer predators, grizzly bear (*Ursus arctos*) and black bear (*Ursus americanus*), were also present in the Point Reyes area but were extirpated over the past century. Recent sporadic observations of black bear in Marin County suggest that the range of this species may naturally be expanding southward. It is unlikely that the black bear, whose diet consists predominantly of vegetation and mast, would effectively limit non-native deer populations, even if its numbers were at carrying capacity. Re-introduction of the grizzly bear would also not be likely to have more than a negligible impact on reducing the non-native deer population. Grizzlies have very large home range requirements (100-400 square miles), so very few could live on park lands. In addition, current land use trends in Marin County, and the potential for dangerous interactions with humans and livestock would make any attempt at reintroduction highly controversial. The Seashore has no plans for re-introducing extirpated predators in the near future.

AL 4000 - Alternatives: New Alternatives or Elements

Commenters state that an element of the alternatives should combine contraception or sterilization with predator reintroduction and also suggest an element combining contraception or sterilization with relocation of deer outside of the Seashore.

Response See also the above response addressing increasing natural predation. It was unclear whether the commenters were suggesting that all or only a portion of the 1,100 plus non-native deer in the Seashore should be relocated to new environments. Relocation requires live capture and handling capture of deer in the wild, a task which is difficult, risky for NPS staff and deer and will result in some unavoidable animal deaths. Given their large numbers and the extent (>50,000 acres) and geographical difficulty of their range, it is unlikely that all the non-native deer in the Seashore could be captured. It is also unlikely that any individuals or groups would be interested in taking sufficient deer to make any substantial difference in current populations. Because lethal removal would be required as part of any alternative, including one that involves select relocation, we believe contraception is a more viable non-lethal management element. Contraception does not depend on the continued supply of individuals or groups interested in taking and maintaining live deer, yet it accomplishes the same goals of reducing numbers of deer lethally removed.

Relocation is discussed in the FEIS in the *Alternatives* and *Actions Considered but Rejected* section of Chapter 2. This section of the FEIS explains the regulatory impediments and health concerns which make adoption of more than a token number of deer very difficult. As detailed in the *Alternatives Considered But Rejected*, the relocation alternative was found to be unlikely to accomplish the objectives of the

project, would be incompatible with state wildlife policy and would pose risks to wildlife, livestock and farmed deer outside of the Seashore.

AL 4000 – Alternatives: New Alternatives or Elements

The commenter favors non-lethal alternatives and recommends that the NPS discourage the public from feeding deer which further increases the deer population.

Response NPS managers are unaware of any feeding of deer in or around the Seashore and there is no evidence that feeding of deer has contributed to the continued increase in the non-native deer population. The feeding of wildlife, whether native or non-native, is inconsistent with NPS *Management Policies* (NPS 2001). Feeding of fallow, axis and black-tailed deer does not occur within NPS boundaries. The feeding of wildlife by private citizens, outside of NPS boundaries, is illegal under CA Department of Fish and Game (CDFG) regulations and is regulated by that agency.

Please also refer to the above responses in this section for discussion of the NPS determination that non-lethal methods would not be feasible.

AL 4000 – Alternatives: New Alternatives or Elements

Commenters state that NPS should consider an alternative that would relocate deer to fenced "deer viewing areas", whether inside or outside of the park on the lands of willing private owners. Commenters note that this has precedent in other national parks and federal lands and ask why this would not be appropriate for this plan.

Response Please refer to the Alternatives and Actions Considered but Rejected section of Chapter 2 where the alternatives Restricting Deer to a Fenced Area and Relocation are discussed. The primary mission of the NPS is to preserve park resources and values in as natural a state as possible and unimpaired for future generations. Those resources include the native ecosystems of the Seashore.

Although wildlife have been fenced in NPS units (including the Seashore) as a first step towards restoration of native species, maintaining wildlife in enclosed areas for a long period of time or permanently is more in keeping with private game farms, game parks or zoological collections. Fencing non-native deer within the Seashore would also be in conflict with the NPS Management Policies (sec 4.15 and others) which states that parks "will re- establish natural functions and processes in human-disturbed components of natural systems in parks unless otherwise directed by Congress" and identifies removal of exotic species as one of the actions that may be necessary to restore natural conditions.

If non-native deer were restricted to deer viewing areas on private property outside NPS boundaries, relocation and a willing recipient of the animals would be required. FEIS Chapter 2, Alternatives and Actions Considered but Rejected addresses the range of problems that make a relocation alternative infeasible. Title 14 §671.6 of the California Code of Regulations states: "No person shall release into the wild without written permission of the commission any wild animal…which: (1) is not native to California." In addition, paratuberculosis, or Johne's disease, has been documented in non-native deer at PRNS (Riemann et al. 1979b). Johne's disease is a chronic, incurable and transmissible diarrheal disease of domestic and wild ruminants. Carriers can shed the organism sporadically and Johne's disease can be difficult to diagnose in infected cervids. Because of the difficulty of accurately screening deer for Johne's disease and the infection risk that carrier animals would pose to livestock, farmed deer, and other wildlife, California Department of Fish and Game has communicated to NPS that movement of non-native deer to

other parts of the state is undesirable. Relocating non-native deer would require a permit from the Department.

AL 4000 – Alternatives: New Alternatives or Elements

AL 4300 – Contraception

The alternatives should include continued research on types of contraceptives and other non-lethal techniques.

Response As noted above and in the EIS, two techniques in the Preferred Alternative include the use of contraception in combination with lethal removal to decrease the size of non-native deer populations. The description of all potential contraceptive agents for deer is in Chapter 2, Alternative C and again under Alternative E, the Preferred Alternative. These sections identify a set of criteria any contraceptive would need to meet, including:

- few adverse effects on the target species (non-native deer);
- no adverse effects on non-target species or humans;
- a multi-year or permanent effect;
- logistically and economically feasible delivery;
- either registered for use in wildlife by the EPA or with an EPA-approved experimental use permit.

There are currently no contraceptive drugs registered for use in wild deer. In order to register a chemical, a sponsor is obliged to provide the EPA with substantial evidence of its effectiveness through controlled studies and must demonstrate the safety of the agent on target and non-target species. Environmental and human safety issues must be addressed as well. In order to receive an experimental use permit, NPS and the sponsor would need to submit to EPA safety and effectiveness data on the proposed chemical. Alternatively EPA could grant NPS a permit to use an unregistered but researched contraceptive if it could document that the use of the chemical would avert an emergency, either of an agricultural or an ecological nature. The data submitted would likely be gathered from the company sponsoring the chemical, although the Seashore would also be required to continue monitoring and gathering additional information about its effectiveness in the field. This continued monitoring would require collection of data on survival and fawning rates of treated and control deer through radio telemetry, population counts and/or necropsies. Additional studies on health effects and safety of the experimental drug could be required by the EPA.

AL 4100 – Alternatives: Livestock

Given all the other impacts to resources that are ongoing at the park, such as the impacts of agriculture, why does the issue of non-native deer need immediate resolution rather than a more intermediate step while additional research is conducted?

Response Please see the response to Concern 10376 above. We believe existing research supports the need for action now before the populations expand outside the Seashore.

AL 4400 – Alternatives: Non-Lethal

The commenter states that the EIS should include more non-lethal control alternatives such as: 1. relocation to another area; 2. use of the existing sterilization vaccine; 3. participation in field trials for a new vaccine; 4. funding through a local ballot initiative; 5. funding through a park admission charge.

Response See also Response to AL 4000 and AL 1110 for additional background information on the NPS decision-making process for rejecting contraception-alone alternatives as infeasible and unreasonable alternatives for inclusion the EIS.

The non-lethal alternatives (relocation, sterilization vaccines, research into contraceptives) suggested by commenters were either determined to be infeasible or would not accomplish the objectives of the plan, as stated in Chapter 1, Purpose and Need. The reasons for rejecting these alternatives are discussed in Chapter 2, Alternatives and Actions Considered but Rejected.

The raising of additional funds through local ballot initiatives or park admission fees would not make these rejected alternatives any more feasible and would not accomplish the objectives of the plan. In addition, placement of a bond measure on the local ballot is beyond the jurisdiction of the National Park Service and is beyond the scope of the document. Charging of an admission fee at the Seashore has historically been rejected because of the many entryways into the park, leading to difficulty enforcing any admission program.

Use of fertility control alone to control or eliminate non-native deer is not only expensive and logistically difficult, it is infeasible. All of the programs in which contraceptives have been documented to successfully control or reduce deer populations have occurred in small confined populations (as in zoos or islands). Researchers currently conducting contraceptive studies with wild deer agree with the Seashore's assessment that such non-lethal control techniques would not succeed unless augmented with lethal removals.

The current state of wildlife contraceptive technology and regulations require that the following conditions be met for any expectation of population control in free-ranging, wild deer:

- a small area with good road or trail access to subject animals
- approximately 250 or fewer subject animals
- "approachable" or non-wary subject animals
- a multi-year contraceptive drug which is effective in fallow and axis deer, is specific to them, and is available with a registration number from EPA.

The Seashore encompasses 90,000 acres of pastoral, natural and wilderness areas. Indeed, the predominant appeal of the park is its lack of roads and wild character, juxtaposed with its proximity to a major metropolitan area. Current estimates of non-native deer numbers are 250 axis deer and 860 fallow deer. The minimum number of fertile does is estimated to be 470. In 2003, Hobbs created a stage-based simulation model to examine the effects of culling and fertility control on fallow deer numbers in PRNS (see Appendix B). Using Seashore data on fallow deer numbers, Hobbs found that attempting to eradicate the population in 15 years using only fertility control (even with longer duration agents) would be futile.

Wildlife biologists agree that in order to control a deer population, at least 80% of all fertile does must be treated with a contraceptive. If the contraceptive is not effective in 100% of animals treated, if the population is near carrying capacity or if a reduction in deer numbers is desired, upwards of 95% of all fertile females must be treated. Because of the Seashore's size, lack of roads and rugged topography, it is impractical to expect that such requirements could be met.

Dale R. McCullough, Professor Emeritus of Wildlife Biology at University of California, Berkeley, wrote in a communication to NPS:

"Stated plainly, there is no way that contraception alone will eliminate feral deer populations from Point Reyes National Seashore. Furthermore, even in the most optimistic scenario, the degree of population reduction will be moderate. It will be inadequate to reduce feral deer populations to low enough numbers to achieve the essence of the program goals."

AL 4400 – Alternatives: Non-Lethal

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

AL 4300 – Alternatives: Contraception

Commenters feel that the Plan/EIS should include alternatives and management actions to control non-native deer that rely on non-lethal methods only.

Response Non-lethal options include relocation and contraception, and both were considered in the formulation of alternatives analyzed in this EIS. As noted above, relocation in the numbers required to meet park objectives is not feasible because a steady supply of recipients would be difficult to secure, and the permitting agency who would decide whether translocation is allowable (California Department of Fish and Game) has indicated it is not likely. This leaves contraception, which is included to the maximum extent feasible, as part of the Preferred Alternative. However, contraception by itself would not meet objectives. In analyzing the likelihood of success of a contraception-only alternative, the following sources of information were consulted:

- past data on 5 years of contraception of tule elk at the Seashore
- scientific literature reviews
- the opinions of experts in the field of wildlife contraception
- population models designed by wildlife biologists (See Appendices A and B).

Contraception, by its very nature, prevents reproduction but does not remove adults from the population. In fact, life expectancy of treated females can increase as a result of reduced energetic costs of pregnancy and lactation (Warren 2000b, Hone 1992) and increased resources in populations with strong density-dependent responses (Garrott 1995). Therefore, only if at least 75-95% of females were treated and the contraceptive was 100% effective for each year in the reproductive lifetime of each female (8-10 years), could a population be controlled or fall to zero by attrition (see Barrett model, Appendix A).

The logistical difficulties of treating such large numbers of animals and the uncertainty of effectiveness have led the vast majority of wildlife biologists to conclude that controlling large free-ranging populations of long-lived ungulates solely with annual contraception is impractical and unlikely to succeed (McCullough 1996, Garrott 1991and 1995, Curtis et al. 1998, Warren et al 1992 and 2000, Rudoph et al. 2000, Fagerstone et al. 2002). Without exception, all of the experts in the field of wildlife contraception that reviewed the document agreed with NPS's rejection of this alternative as infeasible.

Treating a minimum of 400 deer per year with even the most effective, remotely delivered yearly contraceptive, during the 2-3 months before the reproductive season when it must be delivered is beyond the logistic capabilities of most commercial deer ranching facilities or zoos. The capture, treatment, marking and re-treatment of deer at the Seashore is significantly more difficult than this, and well beyond the financial, logistic and operational abilities of the Seashore.

There is currently no EPA-registered multi-year duration wildlife contraceptive drug. It is unknown at this time whether any of the drugs currently in development would cause lifetime sterility in fallow or axis deer. Because these drugs are experimental, and treatment animals are free-ranging, each treated animal would require capture and permanent marking, as well as monitoring over its reproductive life. Capture and handling of wild deer is difficult, risky for NPS staff and deer and will result in some unavoidable animal deaths. Even if a lifelong injectable sterilant for axis and fallow deer were 100% effective, capture, permanent marking and treatment of the minimum numbers required for to remove all non-native deer, using sterilants alone, are impractical for free-ranging deer in a 70,000-acre park.

AL 4500 – Alternatives: Lethal Removal (1)

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

Commenters recommend that deer carcasses be given to charity.

Response As noted in the EIS (see Chapter 2, *Actions Common to All Alternatives* and the descriptions of the individual Alternatives B through E) where fallow and axis deer carcasses are accessible to transport, they would be donated to charitable organizations as food for the needy. In addition, the Seashore is currently developing a cooperative program with the U.S. Fish and Wildlife Service and the California Condor Recovery Program to donate deer carcasses for use as food by reintroduced California Condors (*Gymnogyps californianus*), an endangered species. Funds to enable the donation of meat to the needy or to the condor reintroduction program will be provided by the NPS National Resource Preservation Program (NRPP) and Operating Formulating System (OFS).

AL 4500 – Alternatives: Lethal Removal (1)

The commenter prefers the use of professional sharpshooters rather than hunters, to be more humane to non-native deer.

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

If contraceptive treatment is not feasible, sharpshooters should be used, employing the most humane methods.

Response We agree that the most humane method of lethal control is by way of professional sharpshooters**.** The Seashore's Preferred Alternative (E) calls for the use of professional sharpshooters for removal of deer, along with contraception of fallow does over a 15-year period. As described in Chapter 2, all culling would be conducted by NPS staff or contractors specifically trained in wildlife sharpshooting. Efforts would be made to deliver immediately lethal shots to target animals and sharpshooters would be required to complete range qualifications specifically designed for ensuring humane and effective wildlife removal. Use of hunters to control deer was rejected as being infeasible and unlikely to accomplish plan objectives (see Chapter 2, Alternatives and Actions Considered but Rejected).

The Preferred Alternative is also more humane than those that prolong the removal process because it would remove fewer total deer. This is because taking longer would allow deer to reproduce and repopulate the herd, requiring the removal of the offspring. This is illustrated in the final EIS in Figure 1 and Table 1, which show the total number of deer that would require removal under each of the alternatives.

As specified in Chapter 2, contraception by itself is not feasible. However, the Preferred Alternative (E) includes fertility control (long-lasting contraception of deer) in combination with lethal removal. Both actions would continue until both axis and fallow deer have been extirpated. Because of their current large populations (~250 axis deer and ~860 fallow deer), it is expected that total removal of both species under the Preferred Alternative would require 15 years. Monitoring during program implementation would be done to assess success of the program and to guide adjustments in the management techniques used. The Alternatives chapter describes the necessary criteria a contraceptive must meet, including a multi-year or permanent effect. Although the Preferred Alternative assumes one of chemicals currently in development would be available for use in fallow deer and perhaps for axis deer as well, lethal removal via sharpshooting would be used if fertility control agents could meet the criteria or were not available.

GA 1101 – Impacts Analysis: Livestock (2)

Why is one of the Non-Native Deer Management Plan objectives to reduce non-native deer impacts to ranching when cattle have impacts that are so much greater than the non-native deer?

Response (See also Response to PN 8000, which addresses why the issue of ranching and ranching impacts is not within the scope of this resource management plan but rather the park's General Management Plan, currently under development.) Cattle operations in the Seashore are a separate issue from exotic deer management and outside the scope of this plan.

The U.S. Fish and Wildlife Service, which administers the federal Endangered Species Act, recently concurred with the Seashore's Biological Assessment (NPS 2002c) that ranch lease renewals would not be likely to jeopardize any listed threatened or endangered species in the park. Both the Biological Assessment and Biological Opinion are available by request.

In addition, while the park's general management plan dictates removal of the exotic deer, it mirrors the Seashore's enabling legislation in specifically allowing cattle ranching and dairying to continue (see Issues Considered but Rejected section in the EIS for more information). Ranching pre-dates the park and is specifically allowed in the enabling legislation and general management plans of both PRNS and GGNRA. The 1980 PRNS General Management Plan (GMP) designates a "Pastoral Lands" zone of approximately 17,040 acres in the National Seashore "to permit the continued use of existing ranchlands for ranching and dairying purposes." The 1980 GGNRA GMP specifies that the northern Olema Valley be part of a Pastoral Landscape Management Zone in which "where feasible, livestock grazing will continue within limits of carefully managed range capacities." Although changes in these policies are possible in the next cycle of general management planning over the next two years, these laws, policies and plans are currently binding on the actions of the Seashore.

GA 1200 – Impact Analysis: Native Deer

The need for the management plan should be revised because native deer can cause the same adverse effects (to ranchers for example) and have the same diseases.

Response (See also response above, which reiterates, based on FEIS Chapter 1, Purpose and Need, why the management plan is directed at non-native deer and is necessary given the fundamental purpose of the national park system to preserve native plants and wildlife.)

The need for managing non-native deer at the Seashore goes beyond disease control and the reduction of impacts to ranchers. As noted above, and in more detail in Chapter 1 of the FEIS, axis and fallow deer cause numerous impacts on native species and the Seashore's natural ecology, and their presence is in

contrast with direction provided by the National Park Service laws, regulations and policies. These impacts and regulatory policies indicate the reduction or elimination of these species is warranted.

The primary mission of the National Park Service is the preservation of resources, including natural resources, in an unimpaired condition. In its 2001 *Management Policies*, the NPS provides park units with the specifics of what this mission means to resource managers (NPS 2001). For example, the 2001 Policies direct parks to "re-establish natural functions and processes in human-disturbed components of natural systems (sec 4.1.5)." This same section includes non-native (also called "exotic" or "alien") species as an example of a human-caused disturbance that can have severe impacts on natural biota and ecosystems. Native deer are considered part of the native ecosystem, in which the species have evolved in concert with each other, and as such, are to be protected and restored. Parks are specifically mandated to control exotic species "up to and including eradication" of a population if that species does not meet an identified park purpose and if such control is "prudent and feasible." Only through the removal of exotics and other changes resulting from human disturbance can the NPS return its park units to the most natural condition possible and meet its mandate to preserve them in this condition for future generations.

The presence of non-native axis and fallow deer is the result of human activities and is disruptive to many elements of the natural ecosystem at PRNS. Non-native deer differ in their habitat use and life histories from native black-tailed deer and elk. It is these differences, as well as the apparent explosive growth of the herds in recent years that results in impacts to natural resources. Some of the more serious effects these non-native deer have at the Seashore include competition with, and displacement of, native tule elk and black-tailed deer (particularly in high deer density or low forage conditions), the documented potential for transmitting disease to these native deer, and heavy use of and resulting impacts to riparian and oak woodland habitats, habitats which support a large number of sensitive native wildlife species. Spread of non-native deer to areas outside PRNS boundaries would result in expansion of these impacts to natural areas throughout Marin County.

It is for reasons like these that both the joint PRNS/GGNRA General Management Plan and the Point Reyes Resource Management Plan direct park staff to protect existing ecosystems and reduce or eliminate exotic plants and animals (see *Relationship to Other Federal Laws, Plans, and Polices* section of the FEIS for more information).

GA 3000 – Impact Analysis: General Methodology for Establishing Impacts/Effects

How will culling occur?

Response Information on how lethal control would be implemented is in the FEIS Chapter 2, under the description of Alternative B. Alternatives C through E address culling, but since it is already described in detail, readers are referred back to the more complete description under Alternative B.

Culling would be conducted by NPS staff or contractors specifically trained in wildlife sharpshooting. Efforts would be made to deliver immediately lethal shots to target animals and sharpshooters would be required to complete range qualifications specifically designed for ensuring humane and effective wildlife removal. NPS would follow the recommendations of the American Veterinary Medical Association (AVMA) for humane treatment of animals (see the AVMA website for examples: www.avma.org/resources/euthanasia.pdf.). As such, every attempt would be made, to "reduce pain and distress to the greatest extent possible during the taking of an animal's life" (AVMA 2001).

Beyond culling, all actions which involve direct management of individual animals, ranging from aerial surveillance to live capture and contraception would be conducted in a manner which minimizes stress,

pain, and suffering to every extent possible. In addition, every effort would be made to minimize the degree of human contact during all procedures that require handling of wild ungulates.

Specifics of timing and location of the removal activities would be determined by PRNS managers and would vary depending on movement of animals, seasonal grouping patterns and estimates of numbers. Because visitor and staff safety would be paramount, removal activities would not occur during times and locations of high visitation.

PN 8000 – Purpose and Need: Issues Eliminated from Further Consideration

TE 4000 – Threatened and Endangered Species: Impact of Proposal and Alternatives

Al 4000 – Alternatives: New Alternatives of Elements

Commenters indicate that there should be an alternative that eliminates ranching because the impacts are more severe than from non-native deer.

The impacts of ranching should be included as a cumulative impact.

Is the purpose of the Non-Native Deer Management Plan to obtain more land for ranching?

Response In Chapter 1, *Issues Considered and Rejected*, a number of issues that were suggested by the public or members of the NPS interdisciplinary team, like the issue of livestock management at PRNS, were found to be outside the scope of this planning effort and were therefore not carried forward for analysis.

As noted above, ranching pre-dates the park and is specifically allowed in the enabling legislation and general management plans of both PRNS and GGNRA. The 1980 PRNS General Management Plan (GMP) designates a "Pastoral Lands" zone of approximately 17,040 acres in the National Seashore "to permit the continued use of existing ranchlands for ranching and dairying purposes." The 1980 GGNRA GMP specifies that the northern Olema Valley be part of a Pastoral Landscape Management Zone in which "where feasible, livestock grazing will continue within limits of carefully managed range capacities." Any proposed changes to these agricultural policies will be thoroughly discussed and open to public comment over the next two years as the Seashore updates its general management plan. However, these policies are currently binding on the Seashore and an alternative that eliminates ranching is therefore not a reasonable one for this plan to analyze. The response to GA 1101 addresses relative impacts from ranching and non-native deer. The USFWS recently concurred with Seashore biologists that the effect of renewing existing cattle leases on several listed threatened and endangered species would be adverse, but would not be likely to jeopardize any of these species.

The impacts of livestock grazing, along with other park programs are analyzed in the cumulative impact sections of each alternative and each resource. For example, the combined impacts of cattle operations, past, present and future planned park activities, activities outside the Seashore and those of continuing current management of non-native deer on vegetation are analyzed in the cumulative impact section of impacts of Alternative A to Vegetation. The combined impacts of cattle ranching and other activities relevant to soils are analyzed under the Soils impact analysis.

As stated in Chapter 1, Need, Purpose and Objectives, the need for action is a review of the existing problems, regulatory guidance, and concerns related to the presence and management of the non-native deer in PRNS and GGNRA. The need for developing a non-native deer management plan is not related to

any foreseeable change in the amount of land to be used for agricultural purposes or other issues to be addressed by the general management plan.

PN 8000 – Purpose and Need: Objectives in Taking Action

Commenters question why the plan focuses on non-native deer when other non-native species, such as feral cats and off-leash dogs, are impacting the park.

Response The issue of feral cats and dogs, as well as off-leash pet dogs, is of concern to Seashore managers but is a separate planning issue from that of the management herds of the two non-native deer species. Though stray and abandoned dogs and cats can have detrimental impacts to native wildlife, it is not as broad as the effect of expanding and migrating herds of non-native deer. In addition, the management and regular control of these animals within PRNS takes place through law enforcement officers and is authorized under the Code of Federal Regulations (36 CFR 2.15). Regulations governing feral and domestic animals in the park are detailed in the Seashore's *Compendium*, updated in 2005. Issues concerning dogs and cats were not addressed in the non-native deer management plan because these issues have no influence on the persistence, management or eradication of the non-native deer herds and are outside the scope of this planning effort.

PO 4000 – Park Operations: Impact of Proposal and Alternatives

The management plan is a waste of scarce federal funding.

Response (Also see Response to WH 1000 and GA 1200, reiterating the need for the management plan.) The primary purpose of the National Park Service (NPS) is to preserve the nation's natural and historic treasures for the continued enjoyment of future generations. The NPS expends significant financial resources toward the preservation and perpetuation of natural processes and native species. Considerable effort is directed toward stabilizing rare, threatened and endangered species by improving habitat conditions for their continued survival. A key component of habitat improvement is the control or removal of factors that negatively impact native species. Scientists around the world recognize that the most important cause of native species decline, second only to habitat loss, is non-native species invasions.

Consequently, one of the best uses of limited financial resources to benefit native ecosystems is to improve habitat conditions through removal of non-native competitors where prudent and feasible. Not doing so guarantees the continuation of harmful impacts these species have and also requires perpetual expenditures of staff and budgetary resources, often at the expense of improving conditions for or management of native species of concern. Beyond the outright acquisition of undisturbed habitat, the most effective means, both financially and logistically, of benefiting numerous native, threatened, and endangered species and of perpetuating natural processes is through a focused removal of competing non-native organisms.

Specifically, the non-native deer management plan was developed to accomplish the following important objectives:

- To correct past and ongoing disturbances to Seashore ecosystems from non-native deer and thereby to contribute substantially to the restoration of naturally functioning native ecosystems.
- To minimize long-term impacts, in terms of reduced staff time and resources, to resource protection programs at the Seashore, incurred by continued monitoring and management of non-native deer.
- To prevent spread of populations of both species of non-native deer beyond Seashore and GGNRA boundaries.

- To reduce impacts of non-native deer through direct consumption of forage, transmission of disease to livestock, and damage to fencing to agricultural permittees within pastoral areas.

The NPS considers the accomplishment of these objectives via implementation of the preferred alternative, to manage and eventually eliminate non-native deer from the Seashore, to be highly beneficial for native species, consistent with the primary purpose of the National Park Service and a worthwhile expenditure of public funds.

ON 1000 – Other NEPA Issues: General Comments

The commenter states that NPS was biased (pre-decisional) in its choice of eradication as a component of the Preferred Alternative.

Response The purpose of an Environmental Impact Statement (EIS), and of the National Environmental Policy Act (NEPA), is to make sure that federal agencies fully consider the environmental costs and benefits of their proposed actions before they make any decision to undertake those actions. The NPS is required to analyze impacts and a reasonable range of alternatives, as well as input from the public, before choosing the alternative that causes the least damage to the biological and physical environment. It must also develop and fully analyze an alternative which best protects, preserves, and enhances historic, cultural and natural resources.

The range of alternatives and the impact analyses were developed with input from NPS subject experts, wildlife and contraception experts from universities and other agencies, and from literature searches. Public input was also considered in developing the range of reasonable alternatives as well as the issues of importance in the impact analysis. Before beginning the EIS, the Seashore accepted public comments at a public information meeting at the Point Reyes Dance Palace on May 4, 2002 as well as in letter or email form from May 4, 2002 until July 5, 2002.

Both the national NEPA Regulations and those that guide the National Park Service state that "the preferred alternative must be identified in the draft EIS" so that agencies and the public can understand the lead agency's "orientation" (40 CFR 1502.14 (e), Q4a). In these regulations, "preferred alternative" is defined as the agency-preferred course of action at the time a draft EIS is released. Having a preferred alternative helps the public focus its comments during review of the NEPA document. Therefore the identification of a preferred option at the draft EIS stage is not predecisional, but required. It is also not the same as the "selected" alternative, as the park will consider all comments on the draft EIS before making any final decision on which alternative to implement.

Though the NPS has expressed preference for this alternative, the assessment in the EIS is developed equally for all alternatives. Only after thorough analysis of all the impacts was it obvious that the alternatives which feature eradication of all non-native deer (D and E) would best reduce damaging impacts to natural and physical resources. The non-eradication alternatives (A, B and C), which feature no action or control of deer numbers as some specified level, would perpetuate ongoing detrimental impacts to park natural and physical resources. Alternative E (Removal of all Non-Native Deer by a Combination of Agency Removal and Fertility Control) was found to be the park's Preferred Alternative and, along with Alternative D (Removal of all Non-Native Deer by Agency Personnel), was also found to be the Environmentally Preferable Alternative.

WH 2000 – Wildlife and Wildlife Habitat: Methodology and Assumptions

The commenters are concerned that spread of non-native deer outside of NPS boundaries endangers the mission of other agencies/organizations to preserve native biodiversity.

Response The commenters' concerns are well founded and addressed in the plan's Purpose and Need stated in Chapter 1, and Chapter 4, Environmental Consequences for Alternative A (No Action).

The document concludes that for wildlife, data on current and past population growth of fallow and axis deer at PRNS indicate that continuing current management (the No Action alternative) will result in an increase in non-native deer numbers within the Seashore and throughout Marin County. Pockets of extremely high non-native deer density, such as those currently seen in Olema Valley, are likely to be found increasingly throughout Marin County. Native species richness and diversity would decrease in those high-density areas. Overall, the magnitude of impacts to native wildlife within NPS boundaries are considered moderate or major in intensity, adverse and long-term, and those outside the boundary have the potential to become major in intensity. Similar moderate to major adverse impacts are expected for vegetation inside and outside NPS boundaries.

The recent expansion of non-native deer towards park boundaries is of concern to NPS managers and is one of the compelling components of the stated Need for Action (Chapter 1). The Preferred Alternative (E) would reduce and eventually eliminate the expansion pressure over 15 years by removing all deer within the Seashore. Outside the Seashore, because NPS has no wildlife management authority over state and private lands, California Department of Fish and Game would be responsible for non-native deer control should it become necessary.

PN 8000 – Purpose and Need: Objectives in Taking Action

If one of the objectives for the plan/EIS is truly to prevent transmission of disease, then wouldn't the park also need to address the reduction of disease transmission from livestock or native deer?

Response It is true that one of the objectives includes preventing the transmission of disease from non-native deer to cattle or to other wildlife. The disease of greatest concern in this regard is paratuberculosis, or Johne's disease, an incurable diarrheal wasting disease of wild and domestic ungulates. Both tule elk and black-tailed deer are susceptible to paratuberculosis, which is also carried by axis and fallow deer at the Seashore. Prevalence of paratuberculosis was about 10% and 8% in axis and fallow deer, respectively, during the most recent survey (Riemann et al. 1979). Although paratuberculosis has been documented in tule elk at the fenced Tomales Point Elk Reserve, it has not been documented in PRNS black-tailed deer (Sansome 1999) or in the newly established free-ranging tule elk in the Limantour Wilderness Area The restoration of tule elk in Limantour in 1998 involved a 6-month quarantine of 45 elk which were transported from Tomales Point. The Limantour animals are considered to be the most extensively paratuberculosis-tested wild elk known (Manning et al 2003). Only those animals that tested negative for a battery of fecal and blood tests were released to start the new herd. In 1999, Sansome collected over 120 samples from PRNS black-tailed deer for paratuberculosis testing. All samples tested negative and Sansome concluded that "black-tailed deer pose a minimal risk of re-infecting *M. paratuberculosis* (the organism which causes paratuberculosis) free elk in free-ranging herds" (Sansome 1999). Transmission of paratuberculosis is facilitated by large numbers of animals in close proximity. Because both species of non-native deer gather in large herds, and both are becoming more numerous at PRNS, managers are concerned that the new disease-free Limantour elk herd and native black-tailed deer are susceptible to infection from axis and fallow deer.

Domestic cattle are also carriers of paratuberculosis and infection of native deer from livestock is considered a possibility, albeit minor. The reverse, transmission of disease from native deer to cattle, is also a possibility, and is again considered minor. Elk and black-tailed deer tend to avoid areas where large numbers of livestock congregate and are therefore less likely to be infected (or to infect) with the organism that causes paratuberculosis. Livestock management at PRNS is outside the scope of this

planning effort. The impacts of livestock to wildlife and any proposed changes in the Seashore's agricultural policies will be thoroughly discussed, and open to public comment, over the next two years in the next cycle of general management planning leading to a revised General Management Plan.

TE 4000 – Threatened and Endangered Species: Impact of Proposal and Alternatives

Commenters express concern that an excessive population of non-native deer will have detrimental impacts on threatened and endangered species if not controlled. The damage includes loss of vegetation, erosion and negative impacts upon endangered species.

Response See Chapter 4, the section on impacts to special status species of increasing non-native deer numbers and range (No Action, Alternative A). The federally listed species that are likely to be affected by non-native deer include northern spotted owls (*Strix occidentalis caurina*), western snowy plover (*Charadrius alexandrinus nivosus*), California red-legged frog (*Rana aurora draytonii*), Coho salmon (*Oncorhynchus kisutch*), steelhead trout (*Oncorynchus mykiss*), California freshwater shrimp (*Syncaris pacifica*), and Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*). Based on current and past data on fallow and axis deer, without active control their populations will continue to increase, resulting in expanded range and higher animal concentrations within the Seashore and Marin County. Ongoing impacts to species of special concern range from minor to major. All of the impacts associated with the presence and/or expansion of these populations are characterized as adverse.

TE 4000 – Threatened and Endangered Species: Impact of Proposal and Alternatives

Commenters question the plan's conclusion that non-native deer adversely impact sensitive species when there are many other causes for decline in these species.

Response The EIS makes no claim that non-native deer impacts are currently responsible for decline of listed species outside of PRNS boundaries. However, the discussion, in Chapter 4, of Alternative A (No Action) does detail the impacts of non-native deer spreading outside the Seashore and affecting listed species throughout Marin County. As the commenter states, there are usually multiple, complex and inter-related causes for the decline of any particular species of concern. These causes can usually be found in the recovery plans for the species, prepared by U.S. Fish and Wildlife Service and cooperating agencies or institutions. The presence and expansion of non-native deer populations at the Seashore do contribute to the impacts experienced by some sensitive species, however, as the EIS and the literature and expert opinion document. Other factors outside the Seashore that also adversely impact these same species are briefly described in the cumulative impact sections of the EIS. The non-native deer management plan/EIS is not the appropriate document for a full and detailed discussion of the status and cause of decline of all listed species found in the Seashore. Instead, the primary purpose of the EIS is to define management prescriptions for non-native deer management. The appropriate focus of the impact discussion (Chapter 4) is on the probable environmental consequences related to implementing each of the five deer management alternatives.

TE 4000 - Threatened and Endangered Species: Impact of Proposal and Alternatives

The EIS is non-compliant with the Endangered Species Act and NEPA because it does not consider impacts to listed species from the proposed management actions, such as culling, and the EIS overstates the potential impacts to listed species from non-native deer as opposed to the effects of ranching activities.

Response The EIS is compliant with both the Endangered Species Act (Section 7) and NEPA and has fully analyzed possible impacts of management actions to sensitive and listed species.

For NEPA compliance, see Chapter 4, *Methodology,* for a description of how impacts to threatened and endangered species were assessed and defined. An adverse impact is defined in the document as "likely to result in unnatural changes in the abundance or distribution of a special-status species. This could occur through direct disturbance, mortality, decreased reproduction, or through destruction or alteration of habitat." All impacts of the Preferred Alternative (E) that were not negligible (defined as "imperceptible or not measurable (undetectable)" in the document) were described in Chapter 4, Alternative E*, Impacts on Special Status Species*. There were no impacts of the Preferred Alternative to special status species that were deemed by the NPS to be more than negligible in intensity. Specific limitations to management actions, designed to prevent any possible impacts to these species are described in Chapter 2, description of Alternative E:

- Culling would be conducted by specially trained NPS staff or contractors,
- Culling would take place throughout the Seashore, with the exclusion of northern spotted owl breeding areas during owl nesting season (February 1 – August 1) and a ¼-mile coastal buffer zone, to minimize disturbance to marine mammals and protected shorebirds,
- In remote and sensitive locations where removal of a carcass is difficult, it will be left to recycle nutrients into the ecosystem,
- Culling or capture (for contraception) would not take place in creeks or riparian areas.

It is not the purview of this EIS to compare management of non-native deer and its impacts to those of ranching. These are separate issues which have separate NEPA and planning processes. There may be additive impacts of non-native deer populations and cattle to some Seashore resources, and these are analyzed in the cumulative effects sections of this EIS and will be part of the EIS for the park's revised General Management Plan, which is currently in the early stages of a two-year planning process. During this process, the issue of cattle ranching will be directly addressed and evaluated.

TE 4000 - Threatened and Endangered Species: Impact of Proposal and Alternatives

The NPS failed to comply with requirements to undergo Section 7 consultation for the Non-Native Deer Management Plan.

Response For Endangered Species Act (ESA) compliance, see Chapter 5, Consultation and Coordination. Section 7 of the act defines federal agency responsibilities for consultation with the US Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) and requires concurrence from these two agencies with any NPS determination that intended management actions will not adversely affect listed species. The National Park Service initiated the consultation process with USFWS and NMFS on March 26, 2003 and completed both processes May 3, 2005.

On March 10, 2005, in a letter to the USFWS, the NPS requested concurrence with its finding that the proposed plan would not be likely to adversely affect the proposed critical habitat for the California red-legged frog or adversely affect nine plant and animal species found in the planning area. In a memo dated April 7, 2005, the USFWS explained that their assessment of potential effect was based on the project constraints described in the consultation letter including: 1) no actions would take place in creeks, waterways or riparian areas, 2) culling would be conducted by specifically trained staff, 3) carcasses would be removed when possible, and where not possible, left to decay naturally, and 4) that if project work descriptions or time frames change from those provided in the consultation letter, those changes would be submitted to the USFWS for review. In the April 7, 2005 memo, the USFWS concurred with the NPS findings that measures in the proposed plan would be sufficient to reduce any direct, indirect and cumulative effects to the nine listed species and proposed critical habitat to an insignificant or

discountable level. With the issuance of the memo, the USFWS concluded its consultation process for the Non-native Deer Management Plan EIS.

On March 28, 2005, NPS transmitted a letter to NMFS regarding potential project effects on listed fish species and fish habitat during implementation of the plan. The NPS clarified that management actions would not take place in creeks, waterways, or riparian areas and therefore the proposed project would not likely to adversely effect central California coast ESU coho salmon, central California coast ESU steelhead, California coastal ESU Chinook salmon, Designated Critical Habitat for central California coast ESU coho salmon, and Essential Fish Habitat for coho salmon and Chinook salmon. NMFS concurred with NPS findings in a letter to the NPS on May 3, 2005, ending the informal consultation process.

VE 4100 – Visitor Experience: Non-Native Deer

AL 1200 – Alternative B (1)

AL 1300 – Alternative C (1)

The commenter favors an alternative that would maintain some level of non-native deer so the public would be able to view them.

Commenters stated that the plan/EIS should more fully address the viewing of non-native deer as an important and unique part of the visitor experience at Pt. Reyes National Seashore.

Response See Chapter 4, Impacts to Visitor Experience (Alternatives D and E) for details of the impacts of removing all non-native deer to visitor wildlife viewing. The removal of all non-native deer would result in minor, long-term, adverse effects to wildlife viewing opportunities, particularly for those interested in fallow deer. This was determined in accordance with the definitions of minor, moderate and major impacts to visitor experience (see Chapter 3, *Methodology*). Minor impacts are measurable and mild and would be detectable by a few visitors; moderate impacts are clearly detectable by many visitors. There is no indication from public comment or visitor satisfaction surveys completed yearly by the Seashore that the adverse impacts to wildlife viewing would be anything other than minor in intensity.

In addition to this, the laws, regulations and policies that guide management at Point Reyes are those that guide all units of the National Park System, whose mission is to insure the continued unimpaired availability to the public of the natural processes and historic features for which they were established. The Seashore's enabling legislation indicates the primary purpose of the park is to preserve a portion of the California Coast that was rapidly vanishing due to development at the time the legislation was passed. NPS units are considered to be of national significance. The observation of exotic animals is inconsistent with these mandates, and is better accommodated by game or zoological parks.

WH 1000 - Wildlife and Wildlife Habitat: Guiding Policies, Regulations and Laws

How is it determined that fallow and axis deer are non-native?

The DEIS does not consider that after 50 years at the park the ecosystem has long since adjusted itself to non-native deer and that certain species may be dependent on them and could be impacted.

GA 1200 - Impact Analysis: Native Deer

Why is the management plan directed at non-native deer instead of both non-native deer and native deer?

Response The National Park Service (Point Reyes is a unit of the National Park Service) is governed by a set of laws, regulations and policies including its 2001 "Management Policies," and it is this set of rules, as well as standard biological and ecological peer-reviewed literature, that park units use to manage resources. These policies (in section 4.4.1.3) clearly define "native species" as all species that have occurred or now occur as a result of natural processes on lands designated as units of the national park system. "Exotic species" are those species that occupy park lands directly or indirectly as the result of deliberate or accidental human activities.

The mechanisms which allow species to evolve with their surroundings, i.e. natural selection, genetic drift, mutation, and gene flow, require many generations and large stretches of "evolutionary time". The evolutionary timescale is on the order of thousands of years. Fifty years, the length of time during which non-native deer have lived on park lands, is a fraction of the time required by most species (particularly long-lived ones) to co-adapt and co-evolve.

The crucial distinctions between natural evolution of native species and introductions of non-native species is the time scale over which it occurs and lack of human manipulation. A species of plant or animal is generally considered to be "native" if it occupied or migrated to an area over this long period of evolutionary time. The distribution and migration of species is considered to be a natural occurrence if it occurs without the intentional or inadvertent influence of humans. Native species inhabiting the national parks either co-evolved at that location over millennia or migrated there over time.

Under natural conditions, the adaptation of species to their environment and to each other over time results in an ecological accommodation and balance. Human activities have compressed that relationship both spatially and temporally resulting in an upset in the evolutionary balance and a disruption of natural processes. Natural barriers such as oceans, deserts and mountains that allowed the development of unique ecosystems, such as the California coastal ecosystem, have been breached over the past five hundred years by rapidly accelerating human trade and travel. Species entering a new ecosystem as a result of these deliberate or inadvertent human activities often have a competitive advantage over native species in that they have no natural predators to enforce balance in their new environments. Introduced species often consume or prey on native ones, overgrow them, transmit new diseases to them, compete with them, or hybridize with them. Invaders can change entire ecosystems by altering hydrology, nutrient cycling, and other ecosystem processes.

This is the case with axis and fallow deer at Point Reyes National Seashore. Axis deer and fallow deer both evolved, over many thousands of years, in India and Asia Minor, respectively. In their native ranges, the vegetation, wildlife and other living species co-evolved with them, to form a stable ecological balance. None of the species present in the natural California coastal ecosystem evolved with axis and fallow deer or appear to be dependent on them in any way. However, the ways in which non-native deer affect native ecosystems are numerous but subtle. Unlike native black-tailed deer, they congregate in massive herds and cause compaction and erosion of soils, denudation of vegetation and damage to woodland and riparian habitats. The species which depend on these areas, including species of concern and migratory birds, are in turn adversely impacted by a loss of habitat. Non-native deer compete with native deer for food and cause decreased survivability of black-tailed deer in the fall and during droughts. These are the scientific or ecological reasons why the plan addresses non-native deer. Also, because there is no evidence or indication that removal of all non-native deer in the Seashore would result in loss of any species native to the California coastal ecosystem, it was not considered in the impact analysis. Conversely, black-tailed deer and the other species that are indirectly and adversely affected by axis and fallow deer have co-evolved over many centuries and do have a niche in the California coastal ecosystem that is represented in the park. They are part of an intricate web of natural resources including other native species, and their absence would be felt in many different parts of this web.

For a full explanation of the adverse impacts of non-native deer see FEIS Chapter 4, Environmental Consequences, Alternative A.

WH 1100 – Wildlife and Wildlife Habitat: Ethical Issues

The non-native deer are in the park because of human action and the NPS has an ethical responsibility to find a non-lethal solution.

PO 4000 – Park Operations: Impact of Proposal and Alternatives

The proposed management plan is cruel and inhumane.

Response The Preferred Alternative does include non-lethal management in the form of contraception; however fertility control by itself will not accomplish the objectives of the plan and is infeasible as the sole method of non-native deer control (see Chapter 2, *Alternatives* and *Actions Considered but Rejected*). In fact, one of the reasons Alternative E was selected over Alternative D, the only other alternative that would fully meet park objectives, is because it would make the maximum feasible use of this non-lethal method of controlling deer numbers. This is despite the fact that Alternative D offers benefits in the form of less cost, a shorter duration, fewer impacts on park resources, and fewer safety risks for park staff who administer the contraceptive. NPS believes that by selecting Alternative E, we have made the greatest possible use of non-lethal methods, given these constraints.

The issues of the plan being cruel or inhumane were common themes in several comments. Humaneness is a person's perception of harm or pain inflicted on an animal, and although at times it can be quite obvious when an animal is in distress or pain, at other times it is not. For example, the American Veterinary Medical Association (AVMA) considers gunshot to be a preferred means of euthanasia in wildlife when it is delivered by sharpshooters skilled enough to be consistently accurate. Particularly if a shot is delivered using a relatively soundless weapon so to not disturb other deer or wildlife, death is quick and relatively painless.

Whether an animal should be killed at all is a matter of the social values an individual holds (see Chapter 4, Impacts on Visitor Experience). The interpretation of what constitutes harm or suffering to an animal varies from person to person, with different people perceiving the humaneness of any given action differently (USDA 1997). For example, Kellert (1976) identified a number of distinct attitudes toward wildlife including naturalistic, ecological, humanistic, moralistic, scientific, aesthetic, utilitarian, dominionistic, and negativistic (see Table 5 in the document for definitions). While people typically possess more than one view of animals, most people hold a predominant view. For example, farmers tend to have a utilitarian attitude towards animals, while scientists tend to take a scientific view (Kellert 1976).

Animal welfare advocates promote the minimization of pain and suffering to animals and their organizations promote the well–being and quality of life of individual animals, irrespective of the animals' role in an ecosystem. In contrast to the animal welfare movement, the animal rights movement is premised on the equality of humans and animals. There are no specific federal directives for NPS in regards to animal welfare or animal rights. NPS management of wildlife, as described in *Management Policies* (NPS 2001), is based on Aldo Leopold's biocentric land ethic, a holistic approach to environmental ethics that values ecosystems in their own right. NPS wildlife management focuses on the role of animal populations and species within the ecosystem, rather than on individual animals.

Impacts to individual animals within a species are analyzed in the document in the context of pain and suffering caused by proposed actions to wildlife, specifically, non-native deer (see Chapter 4, Alternative

E, Impacts to Wildlife). All proposed alternatives include provisions to prevent unnecessary animal suffering (see Chapter 2, Actions Common to All Alternatives). Recommendations for humane animal treatment developed by the American Veterinary Medical Association (AVMA) are included in all alternatives. As noted above, the AVMA considers, in some circumstances, gunshot to be the only practical and acceptable method of euthanasia in wildlife, when delivered by personnel sufficiently skilled to be accurate and experienced in the proper and safe use of firearms (AVMA 2001). Because pain and suffering are not scientifically measurable in animals, the judgment of professionals like veterinarians and the AVMA, as well as wildlife biologists and wildlife veterinarians, is used to assess the likelihood of suffering in the EIS.

All actions which involve direct management of individual animals, ranging from aerial surveillance to live capture, contraception and lethal removal, will be conducted in a manner which minimizes stress, pain, and suffering to every extent possible (see Chapter 2, *Actions Common to All Alternatives*). Culling would be conducted by NPS staff or contractors specifically trained in wildlife sharpshooting. Efforts would be made to deliver immediately lethal shots to target animals and sharpshooters would be required to complete range qualifications specifically designed for ensuring humane and effective wildlife removal.

Using the recommendations of the AVMA, every effort will be made to minimize the degree of human contact during all procedures that require handling of wild ungulates, including contraception. In addition, managers will attempt to "reduce pain and distress to the greatest extent possible during the taking of an animal's life" (AVMA 2001). As a matter of general policy in all wildlife management activities, Seashore managers always endeavor to minimize animal suffering, eliminate unnecessary pain to every extent possible and comply with the recommendations of the AVMA. A detailed description of AVMA recommendations can be found on the AVMA website: www.avma.org/resources/euthanasia.pdf.

In addition, regardless of whether a non-native species is introduced directly by humans or expands its range into a unit of the National Park Service, NPS is required to preserve unimpaired the natural and cultural resources and values of the national park system for future generations. Legally, through the NEPA process, NPS must choose a Preferred Alternative which will best fulfills the park's statutory mission and responsibilities, considering economic, environmental, and technical factors. NPS must also choose the alternative that best accomplishes the purpose and need for federal action (as stated in the Purpose and Need section). See Chapter 2 (Preferred Alternative) for the reasons why Alternative E was chosen as the Preferred Alternative.

WH 2000 – Wildlife and Wildlife Habitat: Methodology and Assumptions

The model (Barrett) used to predict population trends is not accurate and has been demonstrated to be faulty before, for example when used to estimate carrying capacity of the tule elk range.

Response Two models, independently created by two experts in the field of wildlife population biology, were included in the data used to evaluate the effect of the 5 alternatives on non-native deer populations. Comparing these models to previous models developed for predicting carrying capacity in tule elk (Howell et al 2000, Gogan 1986) is inappropriate because they have very different equations, variables, assumptions and overall objectives.

The two models used in this EIS use different equations but come to very similar conclusions about the expected effect of No Action, fertility control and culling on fallow and axis deer numbers. Dr. Reginald Barrett, of the University of California, Berkeley developed the model described in Appendix A. Dr. N. Thompson Hobbs, of Colorado State University, developed the model described in Appendix B. The commenter questions the assumptions used in the Barrett model.

The strength of any model depends on the suitability of its basic equation and the reliability of its assumptions. For Dr. Barrett's model, the mathematical formulas are based on expert opinion and the published literature concerning fallow and axis deer population dynamics. The assumptions of the model are based on field observations, necropsy data from hundreds of deer, and unpublished and peer-reviewed published data on both species (including reproductive, age and sex-specific mortality rates and sex ratios). The published literature used includes PRNS-specific references (Gogan et al 2001; Wehausen and Elliott 1982). Several experts in the fields of wildlife biology and wildlife contraception reviewed the Barrett and Hobbs modeled and found the assumptions and conclusions to be sound.

The Hobbs and Barrett models are important to the document but did not constitute the sole basis for the comparison of alternatives or choosing the Preferred Alternative. NPS managers relied on current information on impacts of non-native deer, published literature on deer and grazing impacts, and the opinions of wildlife biology experts, as well as the two models, to develop and evaluate action alternatives.

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

Commenters state the EIS underestimates the impact of proposed management actions on native deer, including: increased human intrusion into deer habitat, noise, stress from shooting, and increased predation due to a decrease in non-native deer population. The EIS should more fully describe these impacts.

Response All known or measurable impacts to native species of proposed actions were analyzed in Chapter 4, *Impacts to Wildlife*. Proposed management actions involving culling or use of helicopters to capture and contracept non-native deer would not cause measurable impacts for native species. Measurable or perceptible impacts are those resulting in unnatural changes in survival or reproduction, viability of a population or species, unnatural distribution of available resources or habitat.

Addressing the commenter's specific concerns, native black-tailed deer do not routinely co-mingle with fallow deer, therefore inducement of physiological stress from non-native deer control and contraception activities is insignificant. (See discussion of stress in response to AL 1410). Other native wildlife would also not experience more than negligible impacts (as noted in the description of each action alternative B-E). Culling would take place throughout the Seashore, with the exception of northern spotted owl breeding areas during owl nesting season (February 1 – August 1), and a ¼-mile coastal buffer zone, to minimize disturbance to marine mammals and protected shorebirds. Spreading the effect throughout the 90,000-acre project area means any helicopters used would hover in any given area only a short period of time and only occasionally. While wildlife may be temporarily disturbed, the effect is so short-lived as to be undetectable.

Predator densities should not change appreciably due to reduction in non-native deer populations as there is little indication that non-native deer are a significant prey species for native predators. As noted above, predators are likely at their carrying capacity at the seashore, and even the potential glut of prey offered by non-native deer has not increased their numbers. Clearly the sharp increase in non-native deer numbers in the past decade is a strong indication that native predators are doing little to limit non-native deer populations. Consequently, any compensatory increase in predation of native deer, resulting from reduction of non-native deer, is considered a negligible change.

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

The EIS needs to disclose impacts of non-native deer to riparian and wetland vegetation.

Response Impacts of non-native deer to riparian and wetland vegetation is addressed in a broader context under several impact area topics -- soils, water resources, vegetation, wildlife and special status species -- in Chapter 4, Alternative A (No Action). Since release of the Draft EIS, a study completed in the Seashore in 2005 by U.S. Geological Survey demonstrates clearly the extent and serious magnitude of impacts to riparian areas of rutting (reproductive) behaviors in male fallow deer. (Study results are detailed in Chapter 3, *History of Research on Non-Native Deer*.) Fallow bucks defend specific territories, or leks, during the rut season and the same areas are traditionally used year after year. Bucks scrape craters in the leks, sometimes 0.6 meters deep, and rub against trees and vegetation, breaking branches and girdling young trees. While engaged in breeding behaviors, fallow deer indirectly affect fish and other aquatic life by damaging riparian plants, resulting in: increased erosion and sediment delivery to the stream, reduced cover, and potentially warmer water in streams due to exposure to sunlight. Increased numbers of fallow deer would increase the scope and intensity of this impact to riparian vegetation. Some of these fish (coho and Chinook salmon and steelhead trout) are listed as threatened under the federal Endangered Species Act. An unmanaged and expanding population of non-native deer would reduce the success and potential effectiveness of ongoing and planned riparian restoration projects for salmon because in restoration areas, revegetation efforts and natural regrowth would be severely retarded due to heavy grazing, trailing and antler thrashing. These impacts are unique to fallow deer. Neither native tule elk nor native black-tailed deer form leks.

As described in Chapter 1, *Required Impact Topics*, riparian areas are frequented by fallow deer herds and are analyzed along with other natural resource impacts (i.e. in the *Vegetation* section of Chapter 4) in the document. Because they do not frequent wetland habitat to any measurable degree, non-native deer do not otherwise affect wetlands or floodplains.

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

If lethal removal proceeds, it should be monitored to ensure humane treatment and visitor safety, and shooters should use non-lead bullets.

Response As noted in response to comments above, all actions which involve direct management of individual animals, ranging from aerial surveillance to live capture and lethal removal, would be conducted in a manner which minimizes stress, pain, and suffering to every extent possible. Culling would be conducted by NPS staff or contractors specifically trained in wildlife sharpshooting. Efforts would be made to deliver immediately lethal shots to target animals and sharpshooters would be required to complete range qualifications specifically designed for ensuring humane and effective wildlife removal. NPS will use recommendations of the American Veterinary Medical Association (AVMA) for humane treatment of animals. Also, every effort will be made to minimize the degree of human contact during all procedures that require handling of wild ungulates, including contraception and culling.

Deer management proposals analyzed in the document include the use of firearms, aircraft, and chemical sterilant drugs, all of which can affect health and safety of visitors and staff. Existing regulations including the NPS Management Policies (2001) and several NPS Director's Orders address these activities (see Chapter 1 in the FEIS, Relationship to Other Plans, Laws and Regulations) and will be implemented to ensure human health and safety during project implementation. Among other things, these policies and regulations contain specific language regarding how to ensure public health and safety within areas of NPS jurisdiction and specify when appropriate certifications related to it are required (e.g., use of firearms, aviation).

Because deer carcasses may be used as food for the California Condor Recovery Program, use of non-lead ammunition is likely. Control and monitoring components of the Non-Native Deer Management

Plan will be specified in a detailed implementation plan that will address operational, scientific and resource protection aspects of the program. National Park Service mandates and policies for resource protection and public safety will be incorporated. Mechanisms for monitoring and evaluating efficacy of methodologies employed are described in the monitoring plan attached to the FEIS as an appendix (C).

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

The DEIS makes unrealistic speculations, relies on anecdotal information and studies of questionable relevance to support the contention that non-native deer impact resources.

Response It is unclear whether the commenters are questioning the information used to support the need for reducing or eliminating non-native deer, or that used in the impact analysis. Although both come from a variety of sources including the scientific literature and the best professional judgment of experts both in and out of the National Park Service, the need for action is not based solely on this information. Rather it is a combination of scientific information, results of monitoring inside the Seashore and the requirement to adhere to the laws, policies and regulations of the National Park Service. The relevant laws and policies are described in the EIS (see *Regulatory Background* in chapter 1, for example) and in responses to comments above (ON 1000 for example), but include the requirement to return ecosystems to as natural conditions as possible and to eliminate non-native species if possible.

In terms of the analysis of impacts, NEPA requires agencies to use the best available information, particularly when the potential for major impacts exists. If information, such as locale-specific data, is unavailable, NEPA requires agencies to inform the public if this deficit will result in inability to predict impacts accurately. Fallow and axis deer have been most extensively studied close to their evolutionary point of origin or in areas where they have been introduced for a long period of time. As they are usually considered a non-native, non-game species in the U.S., wildlife conservation agencies here have little incentive to invest in intensive studies and instead focus efforts upon protection and maximization of native game species. Nevertheless, there is a reasonable amount of data on the impacts of fallow and axis deer to ecosystems, both at PRNS and elsewhere in the U.S. These data are summarized in Chapter 3 (History of Research on Non-Native Fallow and Axis Deer at Point Reyes National Seashore and Golden Gates National Recreation Area) as well as in the Impacts sections of each alternative (Chapter 4). Anecdotal data was included for the sake of completeness but was not the sole basis for the impact analysis. Additional data, such as documented impacts to Seashore riparian and woodland habitats, documented dietary overlap with native deer, and documented presence of transmissible diseases, were important in calculating impacts. As described in the Methodology section of Chapter 4, all of these sources of information, including scientific literature about these species in their native lands, anecdotal observations, the best professional judgment of wildlife biologists, as well as research completed at the Seashore and elsewhere have been used to conduct the analysis of impacts of increasing fallow and axis deer populations and range on other wildlife species. In the professional judgment of park scientists, as well as wildlife experts from other agencies and institutions, the data available on non-native deer are sufficient to determine their impacts to Seashore ecosystems.

WH 4000 – Wildlife and Wildlife Habitat: Impact of Proposal and Alternatives

Commenters ask that PRNS consider the range of impacts of the non-native deer on PRNS natural resources including competition for forage w/ native deer and elk, damage to riparian areas and woodlands, potential effects to California red-legged frogs and salmon, and impacts to visitor safety from aggressive fallow deer.

Response The impacts of each alternative to these resources are discussed and analyzed in the *Impacts* chapter of the EIS, in the sections on wildlife, species of special concern, vegetation and human health

and safety. In the analysis of impacts to human health and safety of increasing non-native deer numbers and range (see Chapter 4, Alternative A), the document discusses the minor adverse impacts to human safety for staff, Seashore visitors and Marin County inhabitants. These impacts are due to increased risk of deer-vehicle collisions and NPS use of helicopters for monitoring deer. There have been no reports of fallow deer aggression directed towards Seashore staff or visitors and therefore the risk of direct physical harm to visitors by increasing numbers of aggressive deer is considered negligible.

WV 1000 – Wilderness Values: Impact on Wilderness

The DEIS does not address the impacts of the culling activities and the resultant increased human intrusion onto habitat which is counter to the goals of wilderness and special status species management.

Response The FEIS does address the impacts of culling and capture operations on wilderness as part of the resource impact topics such as impacts to water quality, soils, vegetation and visitor experience. Additional text describing wilderness experience and character has been added to the Affected Environment chapter (Visitor Experience) and the Environmental Consequences chapter (Impacts on Visitor Experience of Alternatives A through E). Preservation of wilderness character includes management actions to restore conditions conducive to wildness and naturalness and includes restoration of natural processes. With the Wilderness Act, Congress recognized the concept of Minimum Requirement analysis and use of the administratively determined "Minimum Tool" to achieve objectives for managing wilderness as wilderness. Management activities within wilderness are controlled by these two concepts to limit intrusions upon wilderness character. Actions taken under the Preferred Alternative (E) would be limited in time, place and scope to adhere with to the requirement of Minimum Requirement. See Appendix A, Minimum Requirement Decision Guide, for an analysis of proposed actions to minimize negative impacts to wilderness character and values. As noted in the guide, long-term removal of all non-native deer would result in beneficial impacts to wilderness hydrologic processes, soils, vegetation, native wildlife and special status species. Based on what is known of visitor use patterns in Seashore wilderness areas, these adverse impacts are estimated to affect few visitors per year. As described in the document, the direct temporary adverse impacts of the Preferred Alternative to the wilderness experience would be outweighed by the beneficial long-term effects of increased protection of wilderness habitat necessary for the preservation of integral values of wilderness.